

**IN THE UNITED STATES DISTRICT COURT FOR  
THE DISTRICT OF SOUTH CAROLINA  
(CHARLESTON DIVISION)**

**CHARLESTON COUNTY SCHOOL  
DISTRICT**

**Plaintiff,**

**v.**

**META PLATFORMS, INC., FACEBOOK  
PAYMENTS, INC., SICULUS, INC.,  
FACEBOOK OPERATIONS, LLC,  
INSTAGRAM, LLC, SNAP INC.,  
TIKTOK INC., TIKTOK, LTD.,  
TIKTOK, LLC, BYTEDANCE LTD.,  
BYTEDANCE INC., GOOGLE LLC,  
and YOUTUBE, LLC,**

**Defendants.**

Civil Case No. 2:23-cv-4057-RMG

**COMPLAINT**

**JURY TRIAL DEMANDED**

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## **I. INTRODUCTION**

1. American children are suffering an unprecedented mental health crisis fueled by Defendants’ addictive and dangerous social media platforms. In the past decade, Americans’ engagement with social media grew exponentially, nowhere more dramatically than among our country’s youth. That explosion in usage is no accident. It is the result of Defendants’ studied efforts to induce young people to compulsively use their platforms—Instagram, Facebook, TikTok, Snapchat, and YouTube. And Defendants have grown not just their user bases, but the frequency with which users use their platforms and the time each user spends on their platforms. Defendants’ growth is a product of choices they made to design and operate their platforms in ways that exploit the psychology and neurophysiology of their users into spending more and more time on their platforms. These techniques are both particularly effective and harmful to the young users Defendants have intentionally cultivated. Defendants have created a mental health crisis among America’s youth, and they have done so for profit.

2. Adolescents and children are central to Defendants’ business models. These age groups are highly connected to the Internet, more likely to have social media accounts, and more likely to devote their downtime to social media usage. Additionally, youth influence the behavior of their parents and younger siblings. As one Defendant put it, “los[ing] the teen foothold in the U.S.” would mean “los[ing] the pipeline” for growth.<sup>1</sup>

3. Over the past decade, Defendants have relentlessly pursued a strategy of growth-at-all-costs, recklessly ignoring the impact of their platforms on children’s mental and physical health and well-being. In a race to corner the “valuable but untapped” market of tween and teen users, each Defendant designed features to promote repetitive, uncontrollable use by kids.<sup>2</sup>

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<sup>1</sup> Sheera Frenkel et al., *Instagram Struggles with Fears of Losing Its ‘Pipeline’: Young Users*, N.Y. Times (Oct. 26, 2021), available at <https://www.nytimes.com/2021/10/16/technology/instagram-teens.html>.

<sup>2</sup> Georgia Wells & Jeff Horwitz, *Facebook’s Effort to Attract Preteens Goes Beyond Instagram Kids, Documents Show*, Wall St. J. (Sept. 28, 2021), <https://www.wsj.com/articles/facebook-instagram-kids-tweens-attract-11632849667>.

4. Recognizing the power of engaging young users, Defendants deliberately tweaked the design and operation of their apps to exploit the psychology and neurophysiology of kids. Because children's and adolescents' brains are not fully developed, they lack the same emotional maturity, impulse control, and psychological resiliency as adults. As a result, they are uniquely susceptible to addictive features in digital platforms and highly vulnerable to the consequent harms. Knowing this, Defendants wrote code designed to manipulate dopamine release in children's developing brains and, in doing so, create compulsive use of their apps.

5. Defendants' strategy paid off. Users of their platforms now number in the billions, and the frequency and time spent by school aged users has grown exponentially. This has allowed Defendants to harvest a vast amount of personal user data as it relates to school aged kids—from the schools they attend, to the sneakers they covet, to the places they've been and the people they've met. This, in turn, has allowed Defendants to mint a fortune, by selling to others the ability to micro-target advertisements to incredibly narrow slices of the public.<sup>3</sup>

6. Defendants' growth has come at the expense of its most vulnerable users: children and teens around the world who they cultivated and exploited. Children and teens are the direct victims of the intentional design choices made by each Defendant. They are the intended targets of the harmful features that pushed them into self-destructive feedback loops.

7. Today, over a third of 13- to 17-year-old kids report using one of Defendants' apps "almost constantly" and admit this is "too much." Yet more than half of these kids report that they would struggle to cut back on their social media use. Instead of feeding coins into machines, kids are feeding Defendants' platforms with an endless supply of attention, time, and data.

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<sup>3</sup> See Snap, Inc., 2022 Annual Report (Form 10-K) at 15 (Jan. 31, 2023) ("[W]e rely heavily on our ability to collect and disclose data[] and metrics to our advertisers so we can attract new advertisers and retain existing advertisers. Any restriction or inability, whether by law, regulation, policy, or other reason, to collect and disclose data and metrics which our advertisers find useful would impede our ability to attract and retain advertisers.").

8. Defendants’ choices have generated extraordinary corporate profits—and yielded immense tragedy. Suicide rates for youth increased an alarming 57% between 2007 and 2018.<sup>4</sup> Emergency room visits for anxiety disorders are up 117%.<sup>5</sup> In the decade leading up to 2020, there was a 40% increase in high school students reporting persistent sadness and hopelessness, and a 36% increase in those who attempted to take their own lives.<sup>6</sup> In 2019, one in five high school girls had made a suicide plan. In 2021, one in three girls seriously considered attempting suicide.<sup>7</sup>

9. Social media has injected itself into children’s already-messy adolescent and teenage years, development of one’s self-identify, and navigation of social relationships. The result is that “schools face a steady stream of disruptions caused by everything from shooting threats to cyberbullying and nude photos.”<sup>8</sup> Consequently, teachers, principals, and administrators struggle to cope with a steady stream of distractions that regularly escalate into crisis.

10. Instagram, Facebook, TikTok, Snapchat, and YouTube have rewired how our kids think, feel, and behave. Disconnected “Likes” have replaced the intimacy of adolescent friendships. Mindless scrolling has displaced the creativity of play and sport. While presented as “social,” Defendants’ platforms have in myriad ways promoted disconnection, disassociation, and a legion of resulting mental and physical harms. This lawsuit follows on a growing body of

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<sup>4</sup> *Protecting Youth Mental Health: The U.S. Surgeon General’s Advisory* at 8, U.S. Dep’t Health & Hum. Servs. (Dec. 7, 2021), <https://www.hhs.gov/sites/default/files/surgeon-general-youth-mental-health-advisory.pdf>.

<sup>5</sup> Charmaine Lo, *Children’s mental health emergency department visits: 2007-2016*, 145(6) *Pediatrics* e20191536 (June 2020), <https://doi.org/10.1542/peds.2019-1536>.

<sup>6</sup> *Protecting Youth Mental Health: The U.S. Surgeon General’s Advisory* at 8, U.S. Dep’t Health & Hum. Servs. (Dec. 7, 2021), <https://www.hhs.gov/sites/default/files/surgeon-general-youth-mental-health-advisory.pdf>.

<sup>7</sup> Centers for Disease Control and Prevention, *Youth Risk Behavior Survey: Data Summary and Trends Report* (Feb. 13, 2023), [https://www.cdc.gov/healthyyouth/data/yrbs/pdf/YRBS\\_Data-Summary-Trends\\_Report2023\\_508.pdf](https://www.cdc.gov/healthyyouth/data/yrbs/pdf/YRBS_Data-Summary-Trends_Report2023_508.pdf).

<sup>8</sup> Benjamin Herold. *On social media, principals fight losing battle to keep up with students*. Education Week. (2022, July 9). <https://www.edweek.org/leadership/on-social-media-principals-fight-losing-battle-to-keep-up-with-students/2018/04>.



scientific research, including Defendants’ own internal (previously concealed) studies, that draws a direct line between Defendants’ conscious, intentional design choices and the youth mental health crisis gripping our nation.

11. In late 2021, the U.S. Surgeon General issued an advisory “to highlight the urgent need to address the nation’s youth mental health crisis.”<sup>9</sup> In a scathing rebuke of the assault on our children, the Surgeon General recognized the dangerous designs in Defendants’ platforms and Defendants’ abdication of responsibility for the resulting harms:

In these digital public spaces, which are privately owned and tend to be run for profit, there can be tension between what’s best for the technology company and what’s best for the individual user or for society. Business models are often built around maximizing user engagement as opposed to safeguarding users’ health and ensuring that users engage with one another in safe and healthy ways . . . .

**[T]echnology companies must step up and take responsibility for creating a safe digital environment for children and youth.** Today, most companies are not transparent about the impact of their products, which prevents parents and young people from making informed decisions and researchers from identifying problems and solutions.<sup>10</sup>

12. The U.S. Surgeon General recently explained that children versus Big Tech is “just not a fair fight.”<sup>11</sup> “You have some of the best designers and developers in the world who have designed these platforms to make sure people are maximizing the amount of time they spend on these platforms. And if we tell a child, use the force of your willpower to control how much time you’re spending, you’re pitting a child against the world’s greatest product designers.”

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<sup>9</sup> Press Release, U.S. Dep’t Health & Hum. Servs., U.S. Surgeon General Issues Advisory on Youth Mental Health Crisis Further Exposed by COVID-19 Pandemic (Dec. 7, 2021), <https://www.hhs.gov/about/news/2021/12/07/us-surgeon-general-issues-advisory-on-youthmental-health-crisis-further-exposed-by-covid-19-pandemic.html>.

<sup>10</sup> U.S. Surgeon General’s Advisory, Protecting Youth Mental Health (Dec. 7, 2021), <https://www.hhs.gov/sites/default/files/surgeon-general-youth-mental-health-advisory.pdf> (emphasis in original).

<sup>11</sup> Allison Gordon & Pamela Brown, *Surgeon General says 13 is ‘too early’ to join social media*, CNN (Jan. 29, 2023), <https://www.cnn.com/2023/01/29/health/surgeon-general-social-media/index.html>. Exhibits and referenced materials are incorporated in this *Master Complaint* as if fully stated herein.

13. The Surgeon General's comments have since been echoed by President Biden himself. In his 2022 State of the Union Address, President Joe Biden also called attention to the harm social media has wrought on youth and implored all to "hold social media platforms accountable for the national experiment they're conducting on our children for profit."<sup>12</sup>

14. In a January 11, 2023 op-ed, President Biden recognized: "The risks Big Tech poses for ordinary Americans are clear. Big Tech companies collect huge amounts of data on the things we buy, on the websites we visit, on the places we go and, most troubling of all, on our children."<sup>13</sup> The President observed that "millions of young people are struggling with bullying, violence, trauma and mental health" as a result of Defendants' conduct and platforms, and again stated that "[w]e must hold social-media companies accountable" for their role in this crisis.<sup>14</sup> On May 23, 2023, the U.S. Surgeon General issued a public health advisory, warning that "there is growing evidence that social media use is associated with harm to young people's mental health...[w]e are in the middle of a nation youth mental health crisis, and I am concerned that social media use is an important driver of that crisis[.]"<sup>15</sup>

15. Students experiencing anxiety, depression, and other mental health issues perform worse in school, are less likely to attend school, more likely to engage in substance use, and to act out, all of which directly affects Plaintiff's ability to fulfill its educational mission.

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<sup>12</sup> The White House, President Biden's State of the Union Address (Mar. 1, 2022), <https://www.whitehouse.gov/state-of-the-union-2022/>; see also The White House, President Biden's State of the Union Address (Feb. 7, 2023), <https://www.whitehouse.gov/state-of-theunion-2023/>.

<sup>13</sup> Joe Biden, *Republicans and Democrats, Unite Against Big Tech Abuses*, Wall St. J. (Jan. 11, 2023), <https://www.wsj.com/articles/unite-against-big-tech-abuses-social-media-privacy-competition-antitrust-children-algorithm-11673439411>.

<sup>14</sup> See Haugen\_00016373 at Haugen\_00016379 (internal Meta report from March 2020 summarizing internal research on "problematic use"—when a user "experienc[es] both of the following issues 'very often' or 'all the time': Lack of control or feelings of guilt over Facebook use. Negative impact in at least one of the following areas: productivity, sleep, parenting, or relationships."); Haugen\_00016373 at Haugen\_00016412, Haugen\_00016490 (referring to "problematic use" as "Loss of Control Over Time Spent" or "LCOTS"); Haugen\_00016373 at Haugen\_00016379 (recognizing that "Problematic Use" is "sometimes referred to as 'social media addiction' externally").

<sup>15</sup> U.S. Surgeon General's Advisory, Social Media and Youth Mental Health (May 23, 2023), <https://www.hhs.gov/sites/default/files/sg-youth-mental-health-social-media-advisory.pdf>.

16. Plaintiff, like many school districts across the state and country, is at a breaking point. Meanwhile, Defendants profit tremendously from their wrongful conduct. Plaintiff brings this action to remedy this wrong, hold Defendants accountable, and achieve comprehensive, long-term planning and funding to drive sustained reduction in the mental health crises its students experience at the Defendants' hands.

## **II. THE PARTIES**

### **A. PLAINTIFF**

17. Plaintiff Charleston County School District ("CCSD," the "School District," or "Plaintiff") is a body corporate and politic in the State of South Carolina that is authorized and established pursuant to S.C. Code § 59-17-10, and in its corporate capacity, is vested with all the powers and charged with all the duties, obligations, and responsibilities imposed upon school districts by the laws of South Carolina, including but not limited to the right to sue. Plaintiff's offices are located at 75 Calhoun Street, Charleston, South Carolina 29401.

### **B. DEFENDANTS**

18. The defendants identified in this section are collectively referred to as "Defendants" throughout this Complaint.

#### **1. Meta**

19. Defendant Meta Platforms, Inc. ("Meta Platforms") is a Delaware corporation and multinational technology conglomerate. Its principal place of business is in Menlo Park, CA.

20. Meta Platforms' subsidiaries include, but may not be limited to, the entities identified in this section, as well as a dozen others whose identity or involvement is presently unclear.

21. Defendant Facebook Payments, Inc. ("Facebook 1") is a wholly owned subsidiary of Meta Platforms that was incorporated in Florida on December 10, 2010. Facebook 1 manages, secures, and processes payments made through Meta Platforms, among other activities. Its principal place of business is in Menlo Park, CA.

22. Defendant Siculus, Inc. (“Siculus”) is a wholly owned subsidiary of Meta Platforms that was incorporated in Delaware on October 19, 2011. Siculus constructs data facilities to support Meta Platforms’ platforms. Its principal place of business is in Menlo Park, CA.

23. Defendant Facebook Operations, LLC (“Facebook 2”) is a wholly owned subsidiary of Meta Platforms that was incorporated in Delaware on January 8, 2012. Facebook 2 is likely a managing entity for Meta Platforms’ other subsidiaries. Meta Platforms is the sole member of this LLC, whose principal place of business is in Menlo Park, CA.

24. Defendant Instagram, LLC (“Instagram, LLC”) launched an app called Instagram in October 2010. On or around April 7, 2012, Meta Platforms purchased Instagram, LLC for over one billion dollars and reincorporated the company in Delaware. Meta Platforms is the sole member of this LLC, whose principal place of business is in Menlo Park, CA.

25. Meta Platforms, Instagram, Siculus, Facebook 1, and Facebook 2 are referred to jointly as “Meta.”

26. Meta owns, operates, controls, produces, designs, maintains, manages, develops, tests, labels, markets, advertises, promotes, supplies, and distributes digital platforms available through mobile- and web-based applications (“apps”), including Instagram and Facebook (together, “Meta platforms”); Messenger; and Messenger Kids. Meta’s apps and devices are widely distributed to consumers throughout the United States.

## **2. Snap**

27. Defendant Snap Inc. (“Snap”) is a Delaware corporation. Its principal place of business is in Santa Monica, CA.

28. Snap owns, operates, controls, produces, designs, maintains, manages, develops, tests, labels, markets, advertises, promotes, supplies, and distributes the app Snapchat. Snapchat is widely available to consumers throughout the United States.

### 3. **ByteDance**

29. Defendant ByteDance Ltd. is a global company incorporated in the Cayman Islands. Its principal place of business is in Beijing, China. ByteDance Ltd. also maintains offices in the United States, Singapore, India, and the United Kingdom, among other locations.

30. ByteDance Ltd. wholly owns its subsidiary Defendant ByteDance Inc., a Delaware corporation whose principal place of business is in Mountain View, CA.

31. ByteDance Ltd.'s key Chinese subsidiary is Beijing Douyin Information Service Limited, f/k/a Beijing ByteDance Technology Co. Ltd. ("Beijing ByteDance").<sup>16</sup> Beijing ByteDance owns, operates, and holds key licenses to Douyin, the Chinese version of TikTok. On or around April 30, 2021, the Chinese government took a 1% stake in, and received one of three seats on the board of directors of, Beijing ByteDance.<sup>17</sup> Specifically, 1% of Beijing ByteDance is now owned by WangTouZhongWen (Beijing) Technology, which in turn is owned by China Internet Investment Fund (China's top Internet regulator and censor), China Media Group (China's national broadcaster, controlled by the Chinese Communist Party's propaganda department), and the Beijing municipal government's investment arm.

32. ByteDance Ltd. wholly owns its subsidiary Defendant TikTok, Ltd., a Cayman Island corporation with its principal place of business in Shanghai, China.

33. TikTok, Ltd. wholly owns its subsidiary Defendant TikTok, LLC which is, and at all relevant times was, a Delaware limited liability company.

34. TikTok, LLC wholly owns its subsidiary Defendant TikTok, Inc. f/k/a Musical.ly, Inc. ("TikTok, Inc."), a California corporation with its principal place of business in Culver City, CA.

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<sup>16</sup> See Sophie Webster, *ByteDance Changes Names of Subsidiaries to Douyin, Speculated to be Mulling an IPO*, Tech Times (May 8, 2022), available at <https://www.techtimes.com/articles/275188/20220508/bytedance-changes-names-subsidiaries-douyin-speculated-mulling-ipo.htm>.

<sup>17</sup> See Juro Osawa & Shai Oster, *Beijing Tightens Grip on ByteDance by Quietly Taking Stake, China Board Seat*, The Information (Aug. 16, 2021), available at <https://www.theinformation.com/articles/beijing-tightens-grip-on-bytedance-by-quietly-taking-stake-china-board-seat?rc=ubpjcg>.

35. Defendants TikTok, Ltd.; TikTok, LLC; TikTok, Inc.; ByteDance Ltd.; and ByteDance Inc. are referred to jointly as “ByteDance.”

36. ByteDance owns, operates, controls, produces, designs, maintains, manages, develops, tests, labels, markets, advertises, promotes, supplies, and distributes the app TikTok. TikTok is widely available to consumers throughout the United States.

#### **4. Google**

37. Google Inc. was incorporated in California in September 1998 and reincorporated in Delaware in August 2003. In or around 2017, Google Inc. converted to a Delaware limited liability company, Defendant Google, LLC (together with its predecessor-in-interest Google Inc., “Google”). Google’s principal place of business is in Mountain View, CA.

38. Since 2006, Google has operated, done business as, and wholly owned as its subsidiary Defendant YouTube, LLC (“YouTube, LLC”). YouTube, LLC is a Delaware limited liability company with its principal place of business in San Bruno, CA. YouTube is widely available to consumers throughout the United States.<sup>18</sup>

39. On October 2, 2015, Google reorganized and became a wholly owned subsidiary of a new holding company, Alphabet Inc., a Delaware corporation with its principal place of business in Mountain View, CA.

40. Google, LLC and YouTube, LLC (together, “Google”) together and in concert own, operate, control, produce, design, maintain, manage, develop, test, label, market, advertise, promote, supply, and distribute the app YouTube.

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<sup>18</sup> See, e.g., Alphabet Inc., *Form 10-Q*, Oct. 25, 2022, at 4 (defining Alphabet as “Alphabet Inc. and its subsidiaries.”), available at <https://www.sec.gov/Archives/edgar/data/1652044/000165204422000090/goog-20220930.htm>.

### **III. JURISDICTION AND VENUE**

41. This Court has subject matter jurisdiction over this case under 28 U.S.C. § 1332(a) because the amount in controversy exceeds \$75,000, and because Plaintiff and Defendants are residents and citizens of different states.

42. The Court has personal jurisdiction as the Defendants do business in the District of South Carolina and have sufficient minimum contacts with the District. Defendants intentionally avail themselves of the markets in the State of South Carolina through the promotion, marketing, and operations of their platforms at issue in this lawsuit in South Carolina, and by retaining the profits and proceeds from these activities, to render the exercise of jurisdiction by this Court permissible under South Carolina law and the United States Constitution.

43. Venue is proper in the District of South Carolina pursuant to 28 U.S.C. § 1391(b)(2) and (3) because a substantial part of the events or omissions giving rise to the claims at issue in this Complaint arose in this District and Defendants are subject to the Court's personal jurisdiction with respect to this action.

44. Declaratory relief is proper under 28 U.S.C. §§ 2201 and 2202.

### **IV. FACTUAL ALLEGATIONS**

#### **A. DEFENDANTS' APPS HAVE CREATED A YOUTH MENTAL HEALTH CRISIS.**

45. Nearly a decade of scientific and medical studies demonstrate that dangerous features engineered into Defendants' platforms—particularly when used multiple hours a day—can have a “detrimental effect on the psychological health of [their] users,” including compulsive use, addiction, body dissatisfaction, anxiety, depression, and self-harming behaviors such as eating disorders.<sup>19</sup>

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<sup>19</sup> See, e.g., Fazida Karim *et al.*, *Social Media Use and Its Connection to Mental Health: A Systemic Review*, Cureus Volume 12(6) (June 15, 2020), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7364393/>; Alexandra R. Lonergan *et al.*, *Protect*

48. Addiction and compulsive use of Defendants' platforms can entail a variety of behavioral problems including but not limited to: (1) a lessening of control, (2) persistent, compulsive seeking out of access to the platform, (3) using the platform more, and for longer, than intended, (4) trying to cut down on use but being unable to do so, (5) experiencing intense cravings or urges to use, (6) tolerance (needing more of the platform to achieve the same desired effect), (7) developing withdrawal symptoms when not using the platform, or when the platform is taken away, (8) neglecting responsibilities at home, work, or school because of the intensity of usage, (9) taking longer to fall asleep and having poor sleep quality, (10) continuing to use the platform even when doing so interferes and causes problems with important family and social relationships, (11) giving up important or desirable social and recreational activities due to use, and (12) continuing to use despite the platform causing significant harm to the user's physical and mental health.

49. Many of these injuries can be long-lasting, if not lifelong. For example, the long-term effects of eating disorders can include: (1) dermatological effects to the nails and hair; (2) gastrointestinal illnesses, such as gastroparesis or hypomotility of the colon; (3) impacts to the endocrine system, such as glycolic or metabolic conditions, bone loss, and hormonal conditions; (4) nervous system effects, such as gray matter brain loss or atrophy; (5) skeletal system effects, such as bone loss; (6) cardiovascular effects, such as structural heart damage, mitral valve prolapse, or fluid around the heart; and (7) fertility issues.<sup>20</sup>

50. Each Defendant has long been aware of this research, but chose to ignore or brush it off.<sup>21</sup> For example, in 2018, Meta employees mocked it as "BS . . . pseudo science," [sic] and "a

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*me from my selfie: Examining the association between photo-based social media behaviors and self-reported eating disorders in adolescence*, Int. J. of Eating Disorders 756 (Apr. 7, 2020), <https://onlinelibrary.wiley.com/doi/epdf/10.1002/eat.23256>.

<sup>20</sup> See, e.g., Anorexia Nervosa, Cleveland Clinic <https://my.clevelandclinic.org/health/diseases/9794-anorexia-nervosa#outlook--prognosis>; Bulimia Nervosa; Cleveland Clinic <https://my.clevelandclinic.org/health/diseases/9795-bulimia-nervosa#symptoms-and-causes>.

<sup>21</sup> In August 2019, a social psychologist, and leading expert on the effect that technology platforms have on the mental health of their users, wrote to Mr. Zuckerberg ahead of a meeting to note that a new study "point[ed] heavily to a connection, not just from correlational studies but



bunch of people trying to get air time.”<sup>22</sup> Yet, as discussed at length below, Defendants conducted some of the research themselves—and then hid their unfavorable findings from the public.<sup>23</sup>

51. Scientists have studied the impacts of the overuse of social media since at least 2008, with social media addiction recognized in literature around that time after a pervasive upsurge in Facebook use.<sup>24</sup> The *Bergen Social Media Addiction Scale* assesses social media addiction along six core elements: 1) salience (preoccupation with the activity), 2) mood modification (the behavior alters the emotional state), 3) tolerance (increasing activity is needed for the same mood-altering effects), 4) withdrawal (physical or psychological discomfort when the behavior is discontinued), 5) conflict (ceasing other activities or social interaction to perform the behavior), and 6) relapse (resuming the behavior after attempting to control or discontinue it).<sup>25</sup>

52. Beginning in at least 2014, researchers began demonstrating that addictive and compulsive use of Defendants’ apps leads to negative mental and physical outcomes for kids.

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from true experiments, which strongly indicate[d] causation, not just correlation” between Meta’s platforms and harms to users’ wellbeing. META3047MDL-003-00089107 at META3047MDL-003-000891078. In some cases, Meta was not only aware of research connecting its platforms to detrimental effects but actively sought to undermine it. See META3047MDL-003-00082165 at META3047MDL-003-00082165 (discussing methods to undermine research on addiction to apps).

<sup>22</sup> META3047MDL-003-00082165.

<sup>23</sup> See, e.g., Haugen\_00016373 at Haugen\_00016381 (“The best external research indicates that Facebook’s impact on people’s well-being is negative.”); Haugen\_00016373 at Haugen\_00016414 (Mar. 9, 2020 presentation stating “All problematic users were experiencing multiple life impacts,” including loss of productivity, sleep disruption, relationship impacts, and safety risks); Haugen\_00005458 at Haugen\_00005500 (Sept. 18, 2019 presentation containing a slide stating “But, We Make Body Image Issues Worse for 1 in 3 Teen Girls”).

<sup>24</sup> Tim Davies & Pete Cranston, *Youth Work and Social Networking: Interim Report*, The National Youth Agency (May 2008), [https://www.researchgate.net/publication/233911484\\_Youth\\_Work\\_and\\_Social\\_Networking\\_Final\\_Research\\_Report](https://www.researchgate.net/publication/233911484_Youth_Work_and_Social_Networking_Final_Research_Report).

<sup>25</sup> Cecilie Andreassen et al., *The relationship between addictive use of social media and video games and symptoms of psychiatric disorders: a large-scale cross-sectional study*, 30(2) Psychol. of Addictive Behav., 252-262 (2016), <http://dx.doi.org/10.1037/adb0000160>.

53. In 2014, a study of 10- to 12-year-old girls found that increased use of Facebook was linked with body image concerns, the idealization of thinness, and increased dieting.<sup>26</sup> (This study was sent to Mark Zuckerberg in 2018, in a letter signed by 118 public health advocates.)<sup>27</sup>

54. In 2016, a study demonstrated that young people who frequently use Defendants' apps are more likely to suffer sleep disturbances than their peers who use them infrequently.<sup>28</sup> Defendants' platforms, driven by intermittent variable rewards ("IVR") algorithms, as described below, deprive users of sleep by sending push notifications and emails at night, prompting children to re-engage with the apps when they should be sleeping. Disturbed and insufficient sleep is associated with poor health outcomes<sup>29</sup>, including increased risk of major depression—by a factor of more than three<sup>30</sup>—and future suicidal behavior in adolescents.<sup>31</sup> The American Academy of Sleep Medicine has recommended that, in a 24-hour period, children aged 6-12 years should regularly sleep 9-12 hours and teenagers aged 13-18 years should sleep 8-10 hours.<sup>32</sup>

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<sup>26</sup> Marika Tiggemann & Amy Slater, *NetTweens: The Internet and body image concerns in preteenage girls*, 34(5), *J. Early Adolesc.* 606-620 (June 2014), <https://journals.sagepub.com/doi/epub/10.1177/0272431613501083>.

<sup>27</sup> Campaign for a Commercial-Free Childhood, *Letter to Mark Zuckerberg Re: Facebook Messenger Kids* (Jan. 30, 2018), <https://fairplayforkids.org/wp-content/uploads/archive/devel-generate/gaw/FBMessengerKids.pdf>.

<sup>28</sup> Jessica C. Levenson et al., *The Association Between Social Media Use and Sleep Disturbance Among Young Adults*, 85 *Preventive Med.* 36–41 (Apr. 2016), <https://www.sciencedirect.com/science/article/abs/pii/S0091743516000025>.

<sup>29</sup> *Id.*; National Institute of Mental Health(2016), *The teen brain: 6 things to know*, available at <https://www.nimh.nih.gov/health/publications/the-teen-brain-still-under-construction/index.shtml>; R. Sather & A. Shelat, *Understanding the teen brain*, <https://www.urmc.rochester.edu/encyclopedia/content.aspx?ContentTypeID=1&ContentID=3051>.

<sup>30</sup> E. Roberts & H Doung, *The Prospective Association between Sleep Deprivation and Depression among Adolescents Sleep*, Volume 37, Issue 2, 1 Feb. 2014.

<sup>31</sup> X. Liu, D. Buysse, *Sleep and youth suicidal behavior: a neglected field*, *Current Opinion in Psychiatry* (May 2006).

<sup>32</sup> S. Paruthi, L. Brooks, C. D'Ambrosio, et al, *Consensus statement of the American Academy of Sleep Medicine on the recommended amount of sleep for healthy children: methodology and discussion*, 12 *J Clin Sleep Med* 1549–61 (2016).

55. In another 2016 study, 52% of girls said they use image filters every day, and 80% reported using an app to change their appearance before the age of 13.<sup>33</sup> In fact 77% of girls reported trying to change or hide at least one part of their body before posting a photo of themselves, and 50% believe they did not look good enough without editing.<sup>34</sup>

56. In 2017, British researchers asked 1,500 teens to rate how Instagram, Snapchat, and YouTube affected them on certain well-being measures, including anxiety, loneliness, body image, and sleep.<sup>35</sup> Teens rated all three platforms as having a negative impact on body image, “FOMO” (fear of missing out), and sleep. Teens also noted that Instagram and Snapchat had a negative impact on anxiety, depression, and loneliness.

57. In 2018, a *Journal of Social and Clinical Psychology* study examined a group of college students whose use of Instagram, Facebook, and Snapchat was limited to 10 minutes per day per platform. The study found that this limited-use group showed “significant reductions in loneliness and depression over three weeks” compared to a control group that used social media as usual.<sup>36</sup>

58. In 2018, a systematic literature review of nine studies published in the *Indian Journal of Psychiatry* concluded that dangerous features in social networking platforms “contribute to increased exposure to and engagement in self-harm behavior, as users tend to emulate self-injurious

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<sup>33</sup> Anna Haines, *From “Instagram Face” to “Snapchat Dysmorphia”*. *How Beauty Filters Are Changing the Way We See Ourselves*, Forbes (Apr. 27, 2021), <https://www.forbes.com/sites/annahaines/2021/04/27/from-instagram-face-to-snapchat-dysmorphia-how-beauty-filters-are-changing-the-way-we-see-ourselves/?sh=3c32eb144eff>.

<sup>34</sup> *Id.*

<sup>35</sup> Royal Society for Public Health, *#StatusOfMind*, <https://www.rsph.org.uk/static/uploaded/d125b27c-0b62-41c5-a2c0155a8887cd01.pdf>; see also Jonathan Haidt, *The Dangerous Experiment on Teen Girls*, The Atlantic (Nov. 21, 2021), available at <https://www.theatlantic.com/ideas/archive/2021/11/facebooks-dangerous-experiment-teen-girls/620767/>.

<sup>36</sup> Melissa G. Hunt et al., *No More FOMO: Limiting Social Media Decreases Loneliness and Depression*, 37 J. of Social & Clinical Psych. (Dec. 5, 2018), <https://guilfordjournals.com/doi/epdf/10.1521/jscp.2018.37.10.751>.

behavior of others online, adopt self-injurious practices from self-harm videos, or are encouraged and acclaimed by others, thus normalizing self-injurious thoughts and behavior.”<sup>37</sup>

59. A 2019 survey of American adolescents ages 12-14 found that a user’s displeasure with their body could be predicted based on their frequency of using social media (including Instagram and Facebook) and based on the extent to which they engaged in behaviors that adopt an observer’s point-of-view (such as taking selfies or asking others to “rate one’s looks”). This effect was more pronounced among girls than boys.<sup>38</sup>

60. A third study in 2019 of more than 6,500 American adolescents ranging in age from 12 to 15 years old found that those who used social media for 3 hours or more per day were more likely to suffer from mental health problems such as anxiety and depression.<sup>39</sup> Notably, this association remained significant even *after* adjusting for demographics, past alcohol and marijuana use, and history of mental health problems.<sup>40</sup>

61. In 2020, a study of Australian adolescents found that investment in others’ selfies (through likes and comments) was associated with greater odds of meeting criteria for clinical/subclinical bulimia nervosa, clinical/subclinical binge-eating disorder, night eating syndrome, and unspecified feeding and eating disorders.<sup>41</sup>

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<sup>37</sup> Aksha Memon et al., *The role of online social networking on deliberate self-harm and suicidality in adolescents: a systematized review of literature*, 60(4) Indian J Psychiatry 384-392 (Oct-Dec 2018), [http://10.4103/psychiatry.IndianJPsychiatry\\_414\\_17](http://10.4103/psychiatry.IndianJPsychiatry_414_17).

<sup>38</sup> Ilyssa Salomon & Christia Spears Brown, *The Selfie Generation: Examining the Relationship Between Social Media Use and Early Adolescent Body Image*, Journal of Early Adolescence (Apr. 21, 2018), <https://journals.sagepub.com/doi/abs/10.1177/0272431618770809>.

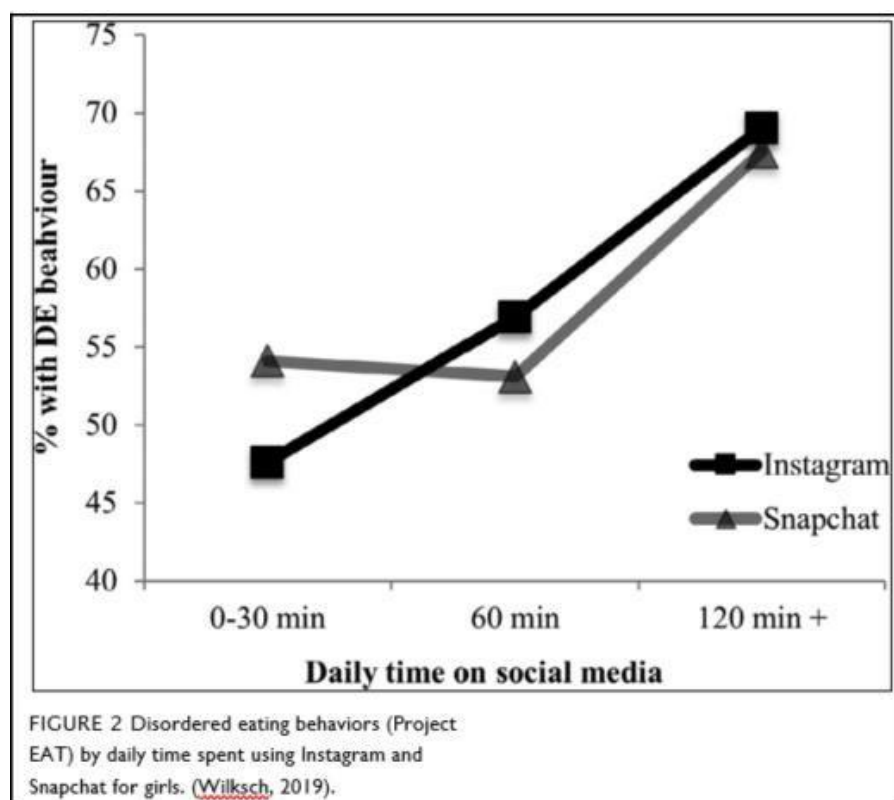
<sup>39</sup> Kira Riehm et al., *Associations between time spent using social media and internalizing and externalizing problems among US youth*, 76(12) JAMA Psychiatry (2019), <https://jamanetwork.com/journals/jamapsychiatry/fullarticle/2749480>.

<sup>40</sup> *Id.*

<sup>41</sup> Alexandra R. Lonergan et al., *Protect Me from My Selfie: Examining the Association Between Photo-Based Social Media Behaviors and Self-Reported Eating Disorders in Adolescence*, Int’l J. of Eating Disorders (Apr. 7, 2020), <https://onlinelibrary.wiley.com/doi/epdf/10.1002/eat.23256>.

62. In 2020, a longitudinal study investigated whether “Facebook Addiction Disorder” predicted suicide-related outcomes, and found that children and adolescents addicted to Facebook are more likely to engage in self-injurious behavior, such as cutting and suicide.<sup>42</sup>

63. In 2020, clinical research demonstrated an observable link between youth social media use and disordered eating behavior.<sup>43</sup> The more time young girls spend using Defendants’ platforms, the more likely they are to develop disordered eating behaviors.<sup>44</sup> And the more social media accounts adolescents have, the more disordered eating behaviors they exhibit.<sup>45</sup>



<sup>42</sup> See, e.g., Julia Brailovskaia et al., *Positive mental health mediates the relationship between Facebook addiction disorder and suicide-related outcomes: a longitudinal approach*, 00(00) *Cyberpsychology, Behavior, and Social Networking* (2020), <https://doi.org/10.1089/cyber.2019.0563>; Jean M. Twenge et al., *Increases in Depressive Symptoms, Suicide-Related Outcomes, and Suicide Rates Among U.S. Adolescents After 2010 and Links to Increased New Media Screen Time*, 6 *Clinical Psych. Sci.* 3–17 (2018).

<sup>43</sup> Simon M. Wilksch et al., *The relationship between social media use and disordered eating in young adolescents*, 53 *Int'l J. Eating Disorders* 96–106 (2020), <https://pubmed.ncbi.nlm.nih.gov/31797420/>.

<sup>44</sup> *Id.*

<sup>45</sup> *Id.*

64. Eating disorders often occur simultaneously with other self-harm behaviors such as cutting and are often associated with suicide.<sup>46</sup>

65. In a 2021 study, female undergraduates were randomly shown thinspiration (low body mass index and not muscular), fitspiration (muscular and exercising), or neutral photos.<sup>47</sup> Thinspiration and fitspiration images lowered self-esteem, even in those with a self-perceived healthy weight.<sup>48</sup>

66. A 2022 study of Italian adolescent girls (12-17) and young women (18-28) found that Instagram's image editing and browsing features, combined with an emphasis on influencer interactions, promulgated unattainable body ideals that caused users to compare their bodies to those ideals.<sup>49</sup> These trends were more prominent among adolescent girls, given their higher susceptibility to social pressures related to their bodies and given the physical changes associated with puberty.

67. In 2023, a study of magnetic resonance images demonstrated that compulsive use of Defendants' apps measurably alters children's brains.<sup>50</sup> This study measured fMRI responses in 12-year-old adolescents who used Facebook, Instagram, and Snapchat over a three-year period and found that neural patterns diverged. Specifically, those who engaged in high social media checking

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<sup>46</sup> Sonja Swanson et al., *Prevalence and correlates of eating disorders in adolescents*, 68(7) Arch Gen Psychiatry 717-723 (2011), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5546800/>.

<sup>47</sup> Karikarn Chansiri & Thipkanok Wongphothipphan, *The indirect effects of Instagram images on women's self-esteem: The moderating roles of BMI and perceived weight*, 00(0) New Media & Society 1-23 (2021), <https://journals.sagepub.com/doi/epub/10.1177/14614448211029975>.

<sup>48</sup> *Id.*

<sup>49</sup> Federica Pedalino and Anne-Linda Camerini, *Instagram use and body dissatisfaction: The mediating role of upward social comparison with peers and influencers among young females*, 19(3) Int'l J of Environmental Research and Public Health 1543 (2022), <https://www.mdpi.com/1660-4601/19/3/1543>.

<sup>50</sup> Maria Maza et al., *Association of habitual checking behaviors on social media with longitudinal functional brain development*, JAMA Ped., (Jan. 3, 2023), <https://jamanetwork.com/journals/jamapediatrics/article-abstract/2799812>.

behavior “showed lower neural sensitivity to social anticipation” than those who engaged in low to moderate checking behavior.<sup>51</sup>

68. Also in 2023, the U.S. Surgeon General issued an Advisory on “Social Media and Youth Mental Health,” warning that “[a]dolescent social media use is predictive of a subsequent decrease in life satisfaction for certain developmental stages including for girls 11-13 years old and boys 14-15 years old.”<sup>52</sup>

69. The Surgeon General’s 2023 Advisory cited a study finding that adolescents who spent more than 3 hours a day on social media were at double the risk of experiencing poor mental health outcomes, citing, in particular, symptoms of depression and anxiety.<sup>53</sup> As of 2021, the average time spent by 8<sup>th</sup> and 10<sup>th</sup> graders on social media each day was 3.5 hours.<sup>54</sup>

70. The Surgeon General concluded:

The Consumer Product Safety Commission requires toy manufacturers to undergo third-party testing and be certified through a Children’s Product Certificate as compliant with the federal toy safety standard for toys intended for use by children. To reduce the risk of injury from motor vehicle accidents, the National Highway Traffic Safety Administration requires manufacturers to fit new motor vehicles with standard airbags and seat belts, among other safety features, and conduct crash tests to be compliant with the Federal Motor Vehicle Safety Standards. Medications must demonstrate safety to the Food and Drug Administration before being made available and marketed for use. **Given the mounting evidence for the risk of harm to some children and adolescents from social media use, a safety-first approach should be applied in the context of social media platforms.**<sup>55</sup>

71. Defendants’ apps have triggered depression, anxiety, eating disorders, self-harm, and suicidality among thousands of children. Defendants have created nothing short of a crisis.

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<sup>51</sup> Maria Maza et al., *Association of habitual checking behaviors on social media with longitudinal functional brain development*, JAMA Ped., (Jan. 3, 2023), <https://jamanetwork.com/journals/jamapediatrics/article-abstract/2799812>.

<sup>52</sup> U.S. Surgeon General’s Advisory, Social Media and Youth Mental Health (May 23, 2023), <https://www.hhs.gov/sites/default/files/sg-youth-mental-health-social-media-advisory.pdf>.

<sup>53</sup> U.S. Surgeon General’s Advisory, Social Media and Youth Mental Health (May 23, 2023), <https://www.hhs.gov/sites/default/files/sg-youth-mental-health-social-media-advisory.pdf>.

<sup>54</sup> *Id.*

<sup>55</sup> *Id.*



72. From 2009 to 2019, the rate of high school students who reported persistent sadness or hopelessness increased by 40% (to one out of every three kids).<sup>56</sup> The share of kids who seriously considered suicide increased by 36%, and those that created a suicide plan increased by 44%.<sup>57</sup>

73. From 2007 to 2018, suicide rates among youth aged 10-24 in the United States increased by 57%.<sup>58</sup>

74. From 2007 to 2016, emergency room visits for youth aged 5-17 rose 117% for anxiety disorders, 44% for mood disorders, and 40% for attention disorders.<sup>59</sup>

75. By 2019, one-in-five children aged 3-17 in the United States had a mental, emotional, developmental, or behavioral disorder.<sup>60</sup> Mental health issues are particularly acute among females.<sup>61</sup>

76. On December 7, 2021, the United States Surgeon General issued an advisory on the youth mental health crisis.<sup>62</sup> The Surgeon General explained, “[m]ental health challenges in children, adolescents, and young adults are real and widespread. Even before the pandemic, an alarming number of young people struggled with feelings of helplessness, depression, and thoughts

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<sup>56</sup> *Protecting Youth Mental Health: The U.S. Surgeon General’s Advisory* at 8, U.S. Dep’t Health & Hum. Servs. (Dec. 7, 2021), <https://www.hhs.gov/sites/default/files/surgeon-general-youth-mental-health-advisory.pdf>.

<sup>57</sup> *Id.*

<sup>58</sup> *Id.*

<sup>59</sup> Charmaine Lo, *Children’s mental health emergency department visits: 2007-2016*, 145(6) *Pediatrics* e20191536 (June 2020), <https://doi.org/10.1542/peds.2019-1536>.

<sup>60</sup> *U.S. Surgeon General Issues Advisory on Youth Mental Health Crisis Further Exposed by COVID-19 Pandemic*, U.S. Dep’t Health & Hum. Servs. (Dec. 14, 2021), <https://adasoutheast.org/u-s-surgeon-general-issues-advisory-on-youth-mental-health-crisis-further-exposed-by-covid-19-pandemic/>; see also Jean M. Twenge et al., *Increases in Depressive Symptoms, Suicide-Related Outcomes, and Suicide Rates Among U.S. Adolescents After 2010 and Links to Increased New Media Screen Time*, 6 *Clinical Psych. Sci.* 3–17 (2017), <https://doi.org/10.1177/216770261772337> (noting that mental health issues are particularly acute among females).

<sup>61</sup> *U.S. Surgeon General Issues Advisory on Youth Mental Health Crisis Further Exposed by COVID-19 Pandemic*, U.S. Dep’t Health & Hum. Servs. (Dec. 14, 2021), <https://adasoutheast.org/u-s-surgeon-general-issues-advisory-on-youth-mental-health-crisis-further-exposed-by-covid-19-pandemic/>.

<sup>62</sup> *Id.*



of suicide—and rates have increased over the past decade.”<sup>63</sup> Those “mental health challenges were the leading cause of disability and poor life outcomes in young people.”<sup>64</sup>

77. On February 13, 2023, the CDC released new statistics revealing that, in 2021, one in three girls seriously considered attempting suicide.<sup>65</sup>

78. As discussed below these consequences are the foreseeable results of Defendants’ engineering decisions.

**B. DEFENDANTS TARGET CHILDREN AS A CORE MARKET, HOOKING KIDS ON THEIR ADDICTIVE SOCIAL MEDIA PLATFORMS.**

79. Each Defendant designs, engineers, markets, and operates its platforms to maximize the number of children who download and use them compulsively. Children are more vulnerable users and have more free time on their hands than their adult counterparts. Because children use Defendants’ platforms more, they see more ads, and as a result generate more ad revenue for Defendants. Young users also generate a trove of data about their preferences, habits, and behaviors. That information is Defendants’ most valuable commodity. Defendants mine and commodify that data, including by selling to advertisers the ability to reach incredibly narrow tranches of the population, including children. Each Defendant placed its app(s) into the stream of commerce and generated revenues through the distribution of those apps at the expense of the consuming public.

80. Addicting young children and teens is central to Defendants’ profitability. Like the cigarette industry a generation earlier, Defendants understand that a child user today becomes an adult user tomorrow. Indeed, Defendants’ insatiable appetite for growth has created a need for younger and younger users. Defendants’ wrongfully acquired knowledge of their childhood

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<sup>63</sup> *U.S. Surgeon General Issues Advisory on Youth Mental Health Crisis Further Exposed by COVID-19 Pandemic*, U.S. Dep’t Health & Hum. Servs. (Dec. 14, 2021), <https://adasoutheast.org/u-s-surgeon-general-issues-advisory-on-youth-mental-health-crisis-further-exposed-by-covid-19-pandemic/>.

<sup>64</sup> *Id.*

<sup>65</sup> Azeen Ghorayashi & Roni Caryn Rabin, *Teen Girls Report Record Levels of Sadness*, C.D.C. Finds, N.Y. Times (Feb. 13, 2023), <https://www.nytimes.com/2023/02/13/health/teen-girls-sadness-suicide-violence.html>.

userbase has allowed them to develop and design platforms to target elementary school-age children, who are uniquely vulnerable. Like Joe Camel of old, Defendants' recent attempts to capture preadolescent audiences include "kid versions" of apps that are "designed to fuel [kids'] interest in the grown-up version."<sup>66</sup>

81. Recognizing the vulnerability of children under 13, particularly in the Internet age, Congress enacted the Children's Online Privacy Protection Act ("COPPA") in 1999.<sup>67</sup> COPPA regulates the conditions under which Defendants can collect, use, or disclose the personal information of children under 13. Under COPPA, developers of apps and websites that are directed to or known to be used by children under 13 cannot lawfully obtain the individually identifiable information of such children without first obtaining verifiable consent from their parents.<sup>68</sup> Even apart from COPPA, it is well established under the law that children lack the legal or mental capacity to make informed decisions about their own well-being.

82. COPPA was enacted precisely because Congress recognized that children under age 13 are particularly vulnerable to being taken advantage of by unscrupulous website operators. As a June 1998 report by the FTC observed, "[t]he immediacy and ease with which personal information can be collected from children online, combined with the limited capacity of children to understand fully the potentially serious safety and privacy implications of providing that information, have created deep concerns about current information practices involving children online."<sup>69</sup> The same

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<sup>66</sup> Leonard Sax, *Is TikTok Dangerous for Teens?*, Inst. Fam. Stud. (Mar. 29, 2022), <https://ifstudies.org/blog/is-tiktok-dangerous-for-teens->.

<sup>67</sup> See 15 U.S.C. §§ 6501-6506.

<sup>68</sup> The FTC recently clarified that acceptable methods for obtaining verifiable parent consent include: (a) providing a form for parents to sign and return; (b) requiring the use of a credit/card online payment that provides notification of each transaction; (c) connecting to trained personnel via video conference; (d) calling a staffed toll-free number; (e) asking knowledge-based questions; or (f) verifying a photo-ID from the parent compared to a second photo using facial recognition technology. Federal Trade Commission, *Complying with COPPA: Frequently Asked Questions*, July 2020, <https://www.ftc.gov/business-guidance/resources/complying-coppa-frequently-asked-questions>.

<sup>69</sup> *Privacy Online: A Report to Congress*, Federal Trade Commission (1998) at 13. <https://www.ftc.gov/sites/default/files/documents/reports/privacy-online-report-congress/priv-23a.pdf>.

report observed that children under the age of 13 “generally lack the developmental capacity and judgment to give meaningful consent to the release of personal information to a third party.”<sup>70</sup>

83. Contemporaneous testimony by the Chairman of the FTC observed that the Internet “make[s] it easy for children to disclose personal information to the general public without their parents’ awareness or consent. Such public disclosures raise safety concerns.”<sup>71</sup> Further, “the practice of collecting personal identifying information directly from children without parental consent is clearly troubling, since it teaches children to reveal their personal information to strangers and circumvents parental control over their family’s information.”<sup>72</sup>

84. None of the Defendants conduct proper age verification or authentication. Instead, each Defendant leaves it to users to self-report their age. This unenforceable and facially inadequate system allows children under 13 to easily create accounts on Defendants’ apps.

85. This is particularly egregious for two reasons. *First*, Defendants have long been on notice of the problem. For instance, in May 2011, Consumer Reports reported the “troubling news” that 7.5 million children under 13 were on Facebook.<sup>73</sup> *Second*, given that Defendants have developed and utilized age-estimation algorithms for the purpose of selling user data and targeted advertisements, Defendants could readily use these algorithms to prevent children under 13 from accessing their platforms, but choose not to do so. Instead, they have turned a blind eye to collecting children’s data in violation of COPPA.

86. Defendants have done this because children are financially lucrative, particularly when they are addicted to Defendants’ apps.

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<sup>70</sup> *Privacy Online: A Report to Congress*, Federal Trade Commission (1998) at 13.

<https://www.ftc.gov/sites/default/files/documents/reports/privacy-online-report-congress/priv-23a.pdf>.

<sup>71</sup> S. 2326, Children’s Online Privacy Protection Act of 1998: Hearing Before the U.S. Sen. Subcom. On Communications, Comm. On Commerce, Science, and Transportation, 105<sup>th</sup> Cong. 11 (1998) (statement of Robert Pitofsky, Chairman, Federal Trade Commission).

<sup>72</sup> *Id.*

<sup>73</sup> Emily Bazelon, *Why Facebook is After Your Kids*, N.Y. Times (Oct. 12, 2011), <https://www.nytimes.com/2011/10/16/magazine/why-facebook-is-after-your-kids.html>.

### **1. Children are uniquely susceptible to Defendants’ addictive apps.**

87. Young people are not only Defendants’ most lucrative market, but are also those most vulnerable to harms resulting from Defendants’ platforms. “Everyone innately responds to social approval.”<sup>74</sup> “[B]ut some demographics, in particular teenagers, are more vulnerable to it than others.”<sup>75</sup> Unlike adults, who “tend to have a fixed sense of self that relies less on feedback from peers,”<sup>76</sup> adolescents are in a “period of personal and social identity formation” that “is now reliant on social media.”<sup>77</sup>

88. To understand the impact Defendants’ apps have on young people, it is helpful to understand some basics about the human brain.

89. The frontal lobes of the brain—particularly the prefrontal cortex—control higher-order cognitive functions. This region of the brain is central to planning and executive decision-making, including the evaluation of risk and reward. It also helps inhibit impulsive actions and “regulate emotional responses to social rewards.”<sup>78</sup>

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<sup>74</sup> Von Tristan Harris, *The Slot Machine in Your Pocket*, Spiegel Int’l (July 27, 2016), <https://www.spiegel.de/international/zeitgeist/smartphone-addiction-is-part-of-the-design-a-1104237.html>.

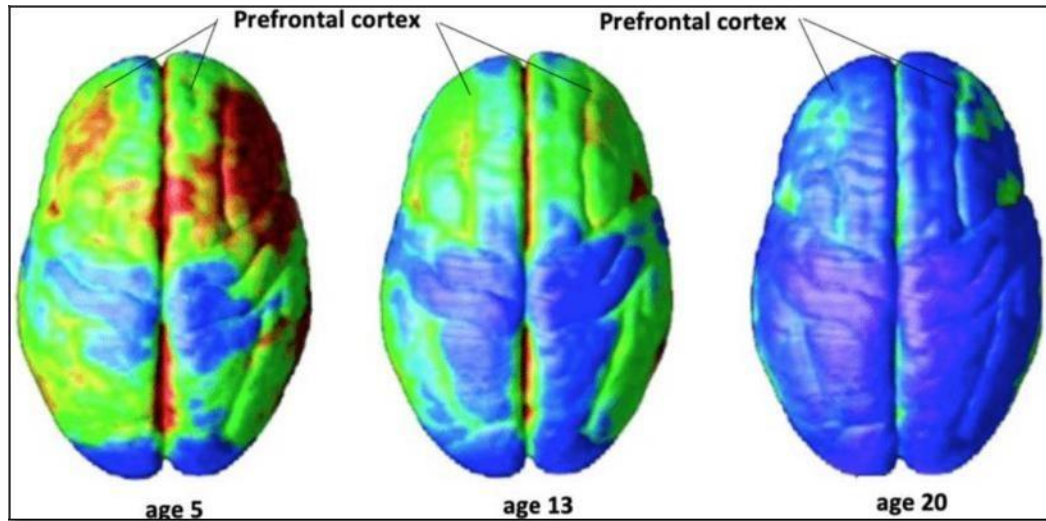
<sup>75</sup> *Id.*

<sup>76</sup> Zara Abrams, *Why young brains are especially vulnerable to social media*, Am. Psych. Ass’n (Aug. 25, 2022), <https://www.apa.org/news/apa/2022/social-media-children-teens>.

<sup>77</sup> Betul Keles, Niall McCrae, & Annmarie Grealish, *A systematic review: the influence of social media on depression, anxiety and psychological distress in adolescents*, Int’l J. Adolescence & Youth (202) 25:1, 79–93 (Mar. 3, 2019), [https://www.researchgate.net/publication/331947590\\_A\\_systematic\\_review\\_the\\_influence\\_of\\_social\\_media\\_on\\_depression\\_anxiety\\_and\\_psychological\\_distress\\_in\\_adolescents](https://www.researchgate.net/publication/331947590_A_systematic_review_the_influence_of_social_media_on_depression_anxiety_and_psychological_distress_in_adolescents).

<sup>78</sup> Zara Abrams, *Why young brains are especially vulnerable to social media*, Am. Psych. Ass’n (Aug. 25, 2022), <https://www.apa.org/news/apa/2022/social-media-children-teens>.

90. Children and adolescents are especially vulnerable to developing harmful behaviors because their prefrontal cortex is not fully developed.<sup>79</sup> Indeed, it is one of the last regions of the brain to mature.<sup>80</sup> In the images below, the blue color depicts brain development.<sup>81</sup>



91. Because of the immaturity of their prefrontal cortex, young people have less impulse control, and less ability to regulate their responses to social rewards, than adults.

92. Beginning around the age of 10, the brain also begins to change in important ways. Specifically, the receptors for dopamine multiply in the subcortical region of the brain.<sup>82</sup> Dopamine is a neurotransmitter that is central to the brain's reward system.<sup>83</sup>

93. During this developmental phase, the brain learns to seek out stimuli (e.g., Instagram) that result in a reward (e.g., likes) and cause dopamine to flood the brain's reward pathways. Each

<sup>79</sup> Nino Gugushvili et al., *Facebook use intensity and depressive symptoms: a moderated mediation model of problematic Facebook use, age, neuroticism, and extraversion* at 3, BMC Psych. 10, 279 (2022), <https://doi.org/10.1186/s40359-022-00990-7>.

<sup>80</sup> *Id.*

<sup>81</sup> Heiner Boettger, & Deborah Koeltezs, *The fear factor: Xenoglossophobia or how to overcome the anxiety of speaking foreign languages*, 4, Training Language and Culture, 43-55 (June 2020), [https://www.researchgate.net/figure/Development-of-the-cortex-functions-The-PFC\\_fig1\\_342501707](https://www.researchgate.net/figure/Development-of-the-cortex-functions-The-PFC_fig1_342501707).

<sup>82</sup> Zara Abrams, *Why young brains are especially vulnerable to social media*, Am. Psych. Ass'n (Aug. 25, 2022), <https://www.apa.org/news/apa/2022/social-media-children-teens>.

<sup>83</sup> *Id.*

time this happens, associations between the stimulus and the reward become stronger.<sup>84</sup> Notably, once the brain has learned to make this association, dopaminergic neurons “shift their ... activation from the time of reward delivery to the time of presentation of [a] predictive cue.”<sup>85</sup> In other words, the anticipation of a reward can itself trigger a dopamine rush.

94. Changes in brain structure similar to those seen in individuals with substance use or gambling addiction have been seen in small studies.<sup>86</sup> And in a nationally representative survey, one-third of girls aged 11-15 reported feeling “addicted” to a social media platform.<sup>87</sup>

95. As New York University professor and social psychologist Adam Alter has explained, features such as “Likes” give users a dopamine hit similar to drugs and alcohol: “The minute you take a drug, drink alcohol, smoke a cigarette . . . when you get a like on social media, all of those experiences produce dopamine, which is a chemical that’s associated with pleasure. When someone likes an Instagram post, or any content that you share, it’s a little bit like taking a drug. As far as your brain is concerned, it’s a very similar experience.”<sup>88</sup>

96. When the release of dopamine in young brains is manipulated by Defendants’ platforms, it interferes with the brain’s development and can have long-term impacts on an individual’s memory, affective processing, reasoning, planning, attention, inhibitory control, and risk-reward calibration.

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<sup>84</sup> See Bryo Adinoff, *Neurobiologic processes in drug reward and addiction*, 12(6) Harv. Rev. Psychiatry 305-320 (2004), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1920543/>.

<sup>85</sup> Luisa Speranza et al., Dopamine: The Neuromodulator of Long-Term Synaptic Plasticity, Reward and Movement Control, 10 Cells 735 (2021), <https://pubmed.ncbi.nlm.nih.gov/33810328/>.

<sup>86</sup> U.S. Surgeon General’s Advisory, Social Media and Youth Mental Health (May 23, 2023), <https://www.hhs.gov/sites/default/files/sg-youth-mental-health-social-media-advisory.pdf>.

<sup>87</sup> *Id.*

<sup>88</sup> Eames Yates, *What happens to your brain when you get a like on Instagram*, Business Insider (Mar. 25, 2017), <https://www.businessinsider.com/what-happens-to-your-brain-like-instagram-dopamine-2017-3>; see also Sören Krach et al., *The rewarding nature of social interactions*, 4(22) Frontiers in Behav. Neuro., (28 May 2010), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2889690/pdf/fnbeh-04-00022.pdf>; Julian Morgans, *The Secret Ways Social Media Is Built for Addiction*, Vice (May 17, 2017), <https://www.vice.com/en/article/vv5jkb/the-secret-ways-social-media-is-built-for-addiction>.

97. Given their limited capacity to self-regulate and their vulnerability to peer pressure, children (including teens) are at greater risk of developing a mental disorder from use of Defendants' platforms.<sup>89</sup> Children are more susceptible than adults to feelings of withdrawal when a dopamine hit wears off. Depending on the intensity, delivery, and timing of the stimulus, and the severity of its withdrawal, these feelings can include anxiety, dysphoria, and irritability.<sup>90</sup> Children also are more likely to engage in compulsive behaviors to avoid these symptoms, due to their limited capacity for self-regulation, relative lack of impulse control, and struggle to delay gratification.

98. This leads to a vicious cycle. Repeated spikes of dopamine over time may cause a child to build up a tolerance for the stimulus. In this process of "neuroadaptation," the production of dopamine and the sensitivity of dopamine receptors are both reduced.<sup>91</sup> As a consequence, the child requires more and more of the stimulus to feel the same reward. Worse, this cycle can cause decreases in activity in the prefrontal cortex, leading to further impairments of decision-making and executive functioning.<sup>92</sup>

99. As described further below, each Defendant deliberately designed, engineered, and implemented dangerous features in their apps that present social-reward and other stimuli in a manner that has caused so many young users to compulsively seek out those stimuli, develop negative symptoms when they were withdrawn, and exhibit reduced impulse control and emotional regulation.

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<sup>89</sup> Betul Keles et al., *A systematic review: the influence of social media on depression, anxiety and psychological distress in adolescents*, Int'l J. Adolescence & Youth (202) 25:1, 79–93 (Mar. 3, 2019), <https://www.researchgate.net/publication/331947590>.

<sup>90</sup> George Koob, and Nora Volkow, *Neurobiology of addiction: a neurocircuitry analysis*, 3 (8) Lancet Psychiatry 760-773 (2016), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6135092/pdf/nihms-985499.pdf>.

<sup>91</sup> *Id.*

<sup>92</sup> *Id.*



100. In short, children find it particularly difficult to exercise the self-control required to regulate their use of Defendants' platforms, given the stimuli and rewards embedded in those apps, and as a foreseeable consequence tend to engage in addictive and compulsive use.<sup>93</sup>

## **2. Defendants design their apps to attract and addict youth.**

92. The defects in Defendants' platforms vary by platform, but all exploit children and adolescents. Upon currently available information, they include but are not limited to an algorithmically-generated, endless feed to keep users scrolling in an induced "flow state;" "intermittent variable rewards" that manipulate dopamine delivery to intensify use; "trophies" to reward extreme usage; metrics and graphics to exploit social comparison; incessant notifications that encourage repetitive account checking by manufacturing insecurity; inadequate, and essentially illusory age verification protocols.

93. Instagram, Facebook, TikTok, Snap, and YouTube employ many similar defective and dangerous features that are engineered to induce more use by young people—creating an unreasonable risk of compulsive use and addiction.<sup>94</sup> For instance, all five apps harvest user data and use this information to generate and push algorithmically tailored "feeds" of photos and videos. And all five include methods through which approval can be expressed and received, such as likes, hearts, comments, shares, or reposts. This section explains the psychological and social mechanisms exploited by these and other defects.

94. *First*, Defendants' apps are designed and engineered to methodically, but unpredictably, space out dopamine-triggering rewards with dopamine gaps. The unpredictability is key because, paradoxically, intermittent variable rewards (or "IVR") create stronger associations

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<sup>93</sup> Fulton Crews et al., *Adolescent cortical development: a critical period of vulnerability for addiction*, 86 *Pharmacology, Biochemistry and Behavior* 189-199 (2007), <https://www.sciencedirect.com/science/article/pii/S009130570600400X>.

<sup>94</sup> See Kevin Hurler, *For Sites Like Instagram and Twitter, Imitation Is the Only Form of Flattery*, Gizmodo (Aug. 16, 2022), <https://gizmodo.com/instagram-tiktok-snapchat-facebook-meta-1849395419> ("Over the last decade, some of the most popular social media apps have blatantly ripped off features from some of the other most popular social media apps, in a tech version of Capture the Flag where the only losers are the users who are forced to persist through this cat-and-mouse game.").



(conditioned changes in the neural pathway) than fixed rewards. Platforms that use this technique are highly addictive or habit forming.

95. IVR is based on insights from behavioral science dating back to research in the 1950s by Harvard psychologist B. F. Skinner. Skinner found that laboratory mice respond most voraciously to unpredictable rewards. In one famous experiment, mice that pushed a lever received a variable reward (a small treat, a large treat, or no treat at all). Compared with mice who received the same treat every time, the mice who received only occasional rewards were more likely to exhibit addictive behaviors such as pressing the lever compulsively. This exploitation of neural circuitry is exactly how addictive platforms act like slot machines keep users coming back.

96. The IVR aspect of slot machines is limited by the fact that they deliver rewards in a randomized manner, irrespective of the person pulling the lever. By contrast, Defendants' apps are designed to purposely withhold and release rewards on a schedule its algorithms have determined is optimal to heighten a specific user's craving and keep them using the platform. For example, TikTok will at times delay a video it knows a user will like until the moment before it anticipates the user would otherwise log out. Instagram's notification algorithm will at times determine that a particular user's engagement will be maximized if the app withholds "Likes" on their posts and then later delivers them in a large burst of notifications.

97. Defendants' use of IVR is particularly effective on and dangerous for adolescents, given the incomplete aspects of their brain maturation described above—including lack of impulse control and reduced executive functions.

98. There are multiple types of dopamine neurons that are connected with distinct brain networks and have distinct roles in motivational control. Apart from the dopamine reward loop triggered by positive feedback, other dopamine neurons are impacted by salient but non-rewarding stimuli and even painful-aversive stimuli.<sup>95</sup> Defendants' apps capitalize on this by algorithmically

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<sup>95</sup> J.P.H. Verharen, Yichen Zhu, and Stephan Lammel *Aversion hot spots in the dopamine system* 64 *Neurobiology* 46-52 (March 5, 2020) <https://doi.org/10.1016/j.conb.2020.02.002>.

ranking photos and videos that “engage” users because they present a dopamine pay-off, including novel, aversive, and alarming images.

99. *Second*, there are multiple types of dopamine neurons that are connected with distinct brain networks and have distinct roles in motivational control. Apart from the dopamine reward loop triggered by positive feedback, other dopamine neurons are impacted by salient but non-rewarding stimuli and even painful-aversive stimuli.<sup>96</sup> Defendants’ apps capitalize on this by algorithmically ranking photos and videos that “engage” users because they present a dopamine pay-off, including novel, aversive, and alarming images.

100. *Third*, dangerous and defective features in Defendants’ apps manipulate young users through their exploitation of “reciprocity”—the psychological phenomenon by which people respond to positive or hostile actions in kind. Reciprocity means that people respond in a friendly manner to friendly actions, and with negative retaliation to hostile actions.<sup>97</sup> Phillip Kunz best illustrated the powerful effect of reciprocity through an experiment using holiday cards. Kunz sent cards to a group of complete strangers, including pictures of his family and a brief note.<sup>98</sup> People whom he had never met or communicated with before reciprocated, flooding him with holiday cards in return.<sup>99</sup> Most of the responses did not even ask Mr. Kunz who he was—they simply responded to his initial gesture with a reciprocal action.<sup>100</sup>

101. Platforms like Instagram and Snapchat exploit reciprocity by, for example, automatically telling a sender when their message is seen, instead of letting the recipient avoid

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<sup>96</sup> J.P.H. Verharen, Yichen Zhu, and Stephan Lamm *Aversion hot spots in the dopamine system* 64 *Neurobiology* 46-52 (March 5, 2020) <https://doi.org/10.1016/j.conb.2020.02.002>.

<sup>97</sup> Ernst Fehr & Simon Gächter, *Fairness and Retaliation: The Economics of Reciprocity*, 14(3) *J. Econ. Persps.* 159–81 (2000), [https://www.researchgate.net/profile/Ernst-Fehr-2/publication/23756527\\_Fairness\\_and\\_Retaliation\\_The\\_Economics\\_of\\_Reciprocity/links/5eb024e945851592d6b87d3b/Fairness-and-Retaliation-The-Economics-of-Reciprocity.pdf](https://www.researchgate.net/profile/Ernst-Fehr-2/publication/23756527_Fairness_and_Retaliation_The_Economics_of_Reciprocity/links/5eb024e945851592d6b87d3b/Fairness-and-Retaliation-The-Economics-of-Reciprocity.pdf).

<sup>98</sup> Phillip R. Kunz & Michael Woolcott, *Season’s Greetings: From my status to yours*, 5(3) *Soc. Sci. Rsch.* 269–78 (Sept. 1976), [https://doi.org/10.1016/0049-089X\(76\)90003-X](https://doi.org/10.1016/0049-089X(76)90003-X).

<sup>99</sup> *Id.*

<sup>100</sup> *Id.*

disclosing whether it was viewed. Consequently, the recipient feels more obligated to respond immediately, keeping users on the platform.<sup>101</sup>

102. *Fourth*, Defendants’ apps addict young users by preying on their already-heightened need for social comparison and interpersonal feedback-seeking.<sup>102</sup> Because of their relatively undeveloped prefrontal cortex, young people are already predisposed to status anxieties, beauty comparisons, and a desire for social validation.<sup>103</sup> Defendants’ apps encourage repetitive usage by dramatically amplifying those insecurities.

103. Mitch Prinstein, Chief Science Officer for the American Psychology Association, has explained that online and real-world interactions are fundamentally different.<sup>104</sup> For example, in the real world, no public ledger tallies the number of consecutive days friends speak. Similarly, “[a]fter you walk away from a regular conversation, you don’t know if the other person liked it, or if anyone else liked it.”<sup>105</sup> By contrast, a design defect like the “Snap Streak” creates exactly such artificial forms of feedback.<sup>106</sup> On Defendants’ apps, friends and even complete strangers can deliver (or withhold) dopamine-laced likes, comments, views, or follows.<sup>107</sup>

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<sup>101</sup> Von Tristan Harris, *The Slot Machine in Your Pocket*, Spiegel Int’l (July 27, 2016), <https://www.spiegel.de/international/zeitgeist/smartphone-addiction-is-part-of-the-design-a-1104237.html>.

<sup>102</sup> Jacqueline Nesi & Mitchell J Prinstein, *Using Social Media for Social Comparison and Feedback-Seeking: Gender and Popularity Moderate Associations with Depressive Symptoms*, 43 J. Abnormal Child Psych. 1427–38 (2015), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5985443/>.

<sup>103</sup> Susan Harter, *The Construction of the Self: Developmental and Sociocultural Foundations* (Guilford Press, 2d ed., 2012) (explaining how, as adolescents move toward developing cohesive self-identities, they typically engage in greater levels of social comparison and interpersonal feedback-seeking).

<sup>104</sup> Zara Abrams, *Why young brains are especially vulnerable to social media*, Am. Psych. Ass’n (Aug. 25, 2022), <https://www.apa.org/news/apa/2022/social-media-children-teens>.

<sup>105</sup> *Id.*

<sup>106</sup> A “Snap Streak” is designed to measure a user’s Snapchat activity with another user. Two users achieve a “Snap Streak” when they exchange at least one Snap in three consecutive 24-hour periods. When successively longer “Streaks” are achieved, users are rewarded with varying tiers of emojis.

<sup>107</sup> Zara Abrams, *Why young brains are especially vulnerable to social media*, Am. Psych. Ass’n (Aug. 25, 2022), <https://www.apa.org/news/apa/2022/social-media-children-teens>.

104. The “Like” on Facebook, Instagram, TikTok, and YouTube or other comparable features common to Defendants’ platforms has an especially powerful effect on teenagers and can neurologically alter their perception of online posts. Researchers at UCLA used magnetic resonance imaging to study the brains of teenage girls as they used Instagram. They found that girls’ perception of a photo changed depending on the number of likes it had generated.<sup>108</sup> That an image was highly liked—regardless of its content—instinctively caused the girls to prefer it. As the researchers put it, teens react to perceived “endorsements,” even if likes on social media are often fake, purchased, or manufactured.<sup>109</sup>

105. The design of Defendants’ apps also encourages unhealthy, negative social comparisons, which in turn cause body image issues and related mental and physical disorders. Given adolescents’ naturally vacillating levels of self-esteem, they are already predisposed to comparing “upward” to celebrities, influencers, and peers they perceive as more popular.<sup>110</sup> Defendants’ apps turbocharge this phenomenon. On Defendants’ apps, users disproportionately post “idealized” content,<sup>111</sup> misrepresenting their lives. That is made worse by appearance-altering filters

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<sup>108</sup> Lauren E. Sherman et al., *The Power of the Like in Adolescence: Effects of Peer Influence on Neural and Behavioral Responses to Social Media*, 27(7) Psychol Sci. 1027 (2016), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5387999/>.

<sup>109</sup> *Id.*; see also Stuart Wolpert, *The teenage brain on social media*, UCLA Newsroom (May 31, 2016), <https://newsroom.ucla.edu/releases/the-teenage-brain-on-social-media>.

<sup>110</sup> Jacqueline Nesi & Mitchell J Prinstein, *Using Social Media for Social Comparison and Feedback-Seeking: Gender and Popularity Moderate Associations with Depressive Symptoms*, 43 J. Abnormal Child Psych. 1427–38 (2015), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5985443/> (“Upward comparison occurs when people compare themselves to someone they perceive to be superior[ ], whereas a downward comparison is defined by making a comparison with someone perceived to be inferior[.]”); Jin-Liang wang, Hai-Zhen Wang, James Gaskin, & Skyler Hawk, *The Mediating Roles of Upward Social Comparison and Self-esteem and the Moderating Role of Social Comparison Orientation in the Association between Social Networking Site Usage and Subjective Well-Being*, *Frontiers in Psychology* (May 2017), [https://www.frontiersin.org/articles/10.3389/fpsyg.2017.00771/full#:~:text=Social%20comparison%20can%20be%20upward,inferior%20\(Wills%2C%201981\)](https://www.frontiersin.org/articles/10.3389/fpsyg.2017.00771/full#:~:text=Social%20comparison%20can%20be%20upward,inferior%20(Wills%2C%201981)).

<sup>111</sup> Jacqueline Nesi & Mitchell J Prinstein, *Using Social Media for Social Comparison and Feedback-Seeking: Gender and Popularity Moderate Associations with Depressive Symptoms*, 43 J. Abnormal Child Psych. 1427–38 (2015), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5985443/>.

built into Defendants’ apps, which underscore conventional (and often racially biased) standards of beauty, by allowing users to remove blemishes, make bodies and faces appear thinner, and lighten skin-tone. Defendants’ apps provide a continuous stream of these filtered and fake appearances and experiences.<sup>112</sup> That encourages harmful body image comparisons by adolescents, who begin to negatively perceive their own appearance and believe their bodies, and indeed their lives, are comparatively worse.<sup>113</sup>

106. *Fifth*, Defendants’ respective platform features work in combination to create and maintain a user’s “flow-state”: a hyper-focused, hypnotic state, where bodily movements are reflexive and the user is totally immersed in smoothly rotating through aspects of the social media platform.<sup>114</sup>

107. As discussed in more detail below, defective features like the ones just described can cause or contribute to the following injuries in young people: eating and feeding disorders; depressive disorders; anxiety disorders; sleep disorders; trauma- and stressor-related disorders; obsessive-compulsive and related disorders; disruptive, impulse-control, and conduct disorders; suicidal ideation; self-harm; and suicide.<sup>115</sup>

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<sup>112</sup> Jin Kyun Lee, *The Effects of Social Comparison Orientation on Psychological Well-Being in Social Networking Sites: Serial Mediation of Perceived Social Support and Self-Esteem*, *Current Psychology* (2020), <https://link.springer.com/content/pdf/10.1007/s12144-020-01114-3.pdf>.

<sup>113</sup> *Id.*; see also Nino Gugushvili et al., *Facebook use intensity and depressive symptoms: a moderated mediation model of problematic Facebook use, age, neuroticism, and extraversion at 3*, *BMC Psych.* 10, 279 (2022), <https://doi.org/10.1186/s40359-022-00990-7> (explaining that youth are particularly vulnerable because they “use social networking sites for construing their identity, developing a sense of belonging, and for comparison with others”); Jin Lee, *The effects of social comparison orientation on psychological well-being in social networking sites: serial mediation of perceived social support and self-esteem*, 41 *Current Psychology* 6247-6259 (2022), <https://doi.org/10.1007/s12144-020-01114-3>.

<sup>114</sup> See e.g., *What Makes TikTok so Addictive?: An Analysis of the Mechanisms Underlying the World’s Latest Social Media Craze*, Brown Undergraduate J. of Pub. Health (2021), <https://sites.brown.edu/publichealthjournal/2021/12/13/tiktok/> (describing how IVR and infinite scrolling may induce a flow state in users).

<sup>115</sup> E.g., Nino Gugushvili et al., *Facebook use intensity and depressive symptoms: a moderated mediation model of problematic Facebook use, age, neuroticism, and extraversion at 3*, *BMC Psych.* 10, 279 (2022), <https://doi.org/10.1186/s40359-022-00990-7> (collecting sources).

### 3. Millions of kids use Defendants' platforms compulsively.

108. Defendants have been staggeringly successful in their efforts to attract young users to their apps. In 2021, 32% of 7- to 9-year-olds,<sup>116</sup> 49% of 10- to 12-year-olds,<sup>117</sup> and 90% of 13- to 17-year-olds in the United States used social media.<sup>118</sup> A majority of U.S. teens use Instagram, TikTok, Snapchat, and/or YouTube. Thirty-two percent say they “wouldn’t want to live without” YouTube, while 20% said the same about Snapchat, and 13% said the same about both TikTok and Instagram.<sup>119</sup>

109. U.S. teenagers who use Defendants’ platforms are likely to use them every day. Sixty-two percent of U.S. children ages 13-18 use social media daily.<sup>120</sup> And daily use often means constant use. About one-in-five U.S. teens visit or use YouTube “almost constantly,” while about one-in-six report comparable usage of Instagram.<sup>121</sup> Nearly half of U.S. teens use TikTok at least “several times a day.”<sup>122</sup> In one study, U.S. teenage users reported checking Snapchat thirty times a day on average.<sup>123</sup>

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<sup>116</sup> *Sharing Too Soon? Children and Social Media Apps*, C.S. Mott Child’s Hosp. Univ. Mich. Health (Oct. 18, 2021),

[https://mottpoll.org/sites/default/files/documents/101821\\_SocialMedia.pdf](https://mottpoll.org/sites/default/files/documents/101821_SocialMedia.pdf).

<sup>117</sup> *Id.*

<sup>118</sup> *Social Media and Teens*, Am. Acad. Child & Adolescent Psychiatry (Mar. 2018), [https://www.aacap.org/AACAP/Families\\_and\\_Youth/Facts\\_for\\_Families/FFF-Guide/Social-Media-and-Teens-100.aspx](https://www.aacap.org/AACAP/Families_and_Youth/Facts_for_Families/FFF-Guide/Social-Media-and-Teens-100.aspx); see also Victoria Rideout et al., *The Common Sense Census: Media Use by Tweens and Teens, 2021* at 5, Common Sense Media (2022), [https://www.commonsensemedia.org/sites/default/files/research/report/8-18-census-integrated-report-final-web\\_0.pdf](https://www.commonsensemedia.org/sites/default/files/research/report/8-18-census-integrated-report-final-web_0.pdf).

<sup>119</sup> Victoria Rideout et al., *Common Sense Census: Media use by tweens and teens, 2021* at 31, Common Sense Media (2022), [https://www.commonsensemedia.org/sites/default/files/research/report/8-18-census-integrated-report-final-web\\_0.pdf](https://www.commonsensemedia.org/sites/default/files/research/report/8-18-census-integrated-report-final-web_0.pdf).

<sup>120</sup> *Id.*

<sup>121</sup> Emily Vogels et al., *Teens, Social Media and Technology 2022*, Pew Rsch. Ctr. (Aug. 10, 2022), <https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022/>.

<sup>122</sup> *Id.*

<sup>123</sup> Erinn Murphy et al., *Taking Stock with Teens, Fall 2021* at 13, Piper Sandler (2021), <https://tinyurl.com/89ct4p88>; see also Emily Vogels et al., *Teens, Social Media and Technology 2022*, Pew Rsch. Ctr. (Aug. 10, 2022), <https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022/>.



110. Teenagers know they are addicted to Defendants’ platforms: 36% admit they spend too much time on social media.<sup>124</sup> Yet they can’t stop. Of the teens who use at least one social media platform “almost constantly,” 71% say quitting would be hard. Nearly one-third of this population—and nearly one-in-five of *all* teens—say quitting would be “very hard.”<sup>125</sup>

111. Notably, the more teens use Defendants’ apps, the harder it is to quit. Teens who say they spend too much time on social media are almost twice as likely to say that giving up social media would be hard, compared to teens who see their social media usage as about right.<sup>126</sup>

112. Despite using social media frequently, most young people don’t particularly enjoy it. In 2021, only 27% of boys and 42% of girls ages 8-18 reported liking social media “a lot.”<sup>127</sup> Moreover, one survey found that young people think social media is the main reason youth mental health is getting worse.<sup>128</sup> About twice as many of the surveyed youth believed that social media is the main reason for declining mental health than the next likely cause, and over *seven times* more believed it to be the main cause rather than drugs and alcohol.<sup>129</sup>

#### **4. Defendants’ defective platforms encourage dangerous “challenges.”**

113. Dangerous “viral” challenges are one particularly pernicious result of the defective design of Defendants’ apps. “Online challenges or dares typically involve people recording themselves doing something difficult, which they share online to encourage others to repeat.”<sup>130</sup>

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<sup>124</sup> Emily Vogels et al., *Teens, Social Media and Technology 2022*, Pew Rsch. Ctr. (Aug. 10, 2022), <https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022/>.

<sup>125</sup> *Id.*

<sup>126</sup> *Id.*

<sup>127</sup> Victoria Rideout et al., *Common Sense Census: Media use by tweens and teens, 2021* at 34, Common Sense Media (2022), [https://www.commonsensemedia.org/sites/default/files/research/report/8-18-census-integrated-report-final-web\\_0.pdf](https://www.commonsensemedia.org/sites/default/files/research/report/8-18-census-integrated-report-final-web_0.pdf).

<sup>128</sup> *Headspace (2018) National youth mental health survey 2018*, National Youth Mental Health Foundation (2018), <https://headspace.org.au/assets/headspace-National-Youth-Mental-Health-Survey-2018.pdf>.

<sup>129</sup> *Id.* (surveying more than 4,000 Australians ages 12-25).

<sup>130</sup> TikTok, *Online Challenges*, <https://www.tiktok.com/safety/en-us/online-challenges/>.

These challenges often generate significant engagement—sometimes millions of likes or views—and resulting social rewards to the users who post videos of themselves carrying out the challenges. Predictably, a substantial portion of online challenges—created for the purpose of generating social rewards—are very dangerous.

114. For example, one common social media challenge is the “Blackout Challenge,” where youth are encouraged to make themselves faint by holding their breath and constricting their chest muscles, or by restricting airflow with a ligature around their neck. This challenge is dangerous because, should the participant fail to remove the ligature around their neck prior to fainting, they may strangle themselves. Similarly, an “I Killed Myself” challenge involves participants faking their own deaths to record their family members’ reactions upon believing their loved one has died. This challenge is dangerous because certain methods of participating can actually kill (or inflict catastrophic injury) on participants. Likewise, the game Russian Roulette—in which a participant loads a revolver with a single bullet, spins the chamber until it falls on a random slot, and then shoots themselves—has taken on new life as a social media challenge.

115. Again, these injuries and deaths are a foreseeable consequence of Defendants’ addictive designs. Many other addictive platforms cause injury or death because neuroadaptation causes addicts to use increasingly extreme methods to maintain dopamine levels. That compulsive use of social media would do the same was, at all relevant times, foreseeable, particularly as to young users whose abilities to assess risks, make wise decisions, and regulate their responses to perceived social needs are still developing.

116. Defendants are perfectly aware of the foreseeable risks to youth presented by their apps’ “viral” promotion of dangerous challenges. As ByteDance internal documents observe, “[y]oung people are more susceptible to copying a dangerous challenge than adults because, developmentally, their ability to weigh up risk and to think beyond the immediate consequences of their actions is not yet fully formed. They are also more likely to take risks, to make impulsive



choices, and to overestimate their ability to cope with risk. . . . The ability to understand the finality of death is also not fully fledged.”<sup>131</sup>

117. Defendants have encouraged the viral challenge phenomenon in spite of the fact that their encouragement furthers dangerous challenges themselves and a broader ecosystem in which those dangerous challenges occur.

118. Meta, TikTok, and YouTube use engagement-optimized algorithms to control users’ main feeds in a way that maximizes engagement. That design defect foreseeably leads to dangerous challenges spreading easily on these Defendants’ platforms. In addition, Meta’s algorithms were at one point in time structured to triple amplification of posts that used the word “challenge” in a hashtag—which Meta engineers would later observe was “super high risk” and prompted “#killchallenge” to go viral.<sup>132</sup>

119. Defendants have further encouraged challenges in other ways. ByteDance regularly creates overlays and filters that facilitate viral challenges. It offers advertisers the ability to launch Branded Hashtag Challenges and promotes them on user feeds.<sup>133</sup> It boasts that challenges are “geared towards building awareness and engagement,” and that “research shows that they can deliver strong results”—i.e., increased return on ad spending—“at every stage of the funnel.” This, in turn, generates advertising revenue for ByteDance. ByteDance employees have described challenges as “one of our core features.”<sup>134</sup>

120. Snap also promotes viral challenges through Snapchat’s Snap Spotlight feature. It gives cash prizes to challenge participants whose challenges receive the most views on Snap Spotlight.<sup>135</sup> It has also created overlays that encourage challenges—such as a Speed Filter,

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<sup>131</sup> TikTok3047MDL-001-00002375.

<sup>132</sup> META3047MDL-003-00030070.

<sup>133</sup> TikTok for Business, *Branded Hashtag Challenge: Harness the Power of Participation* (Mar. 16, 2022), <https://www.tiktok.com/business/en-US/blog/branded-hashtag-challenge-harness-the-power-of-participation>.

<sup>134</sup> TikTok3047MDL-001-00000177.

<sup>135</sup> “Snapchat adds ‘challenges’ with cash prizes to its TikTok competitor,” *The Verge*, Oct. 6, 2021, <https://www.theverge.com/2021/10/6/22711632/snapchat-spotlight-challenges-announced-cash-prizes-tiktok>.

showing how fast a given user was going at the time they took a particular Snap.<sup>136</sup> Other Defendants have also promoted viral challenges based on a recognition that such challenges drive engagement and advertising revenue.

**5. Defendants’ defective social media apps facilitate and contribute to the sexual exploitation and sextortion of children, and the ongoing production and spread of child sex abuse material online.**

121. It is well documented that sexual predators use Defendants’ platforms to target and exploit minors. They are drawn to social media because it provides them with easy access to a large pool of potential victims, many of whom are addicted to Defendants’ platforms. On February 7, 2023, for example, the FBI and international law enforcement agencies issued a joint warning about the global “financial sextortion crisis” which stated: “Financial sextortion can happen anywhere, although it mainly occurs on the digital platforms where children are already spending their screen time, like social media and gaming websites, or video chat applications. On these platforms, predators often pose as girls of a similar age and use fake accounts to target young boys, deceiving them into sending explicit photos or videos. The predator then threatens to release the compromising materials unless the victim sends payment, however, in many cases, the predator will release the images anyway.”<sup>137</sup>

122. Rather than mitigate the risk of sexual exploitation and harm to children and teens on their platforms, Defendants have facilitated and exacerbated it by implementing defective features that help sexual predators connect with children. Defendants’ platforms are designed in unsafe ways—including, as to some or all Defendants, flawed age verification, lack of meaningful mechanisms to prevent sham accounts, default-public profiles, matching and recommending connections between adults and minors, promoting unsolicited messages and interactions from adults,

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<sup>136</sup> See *Lemmon v. Snap, Inc.*, 995 F.3d 1085, 1085 (9th Cir. 2021).

<sup>137</sup> International Law Enforcement Agencies Issue Joint Warning about global financial sextortion crisis, FBI (2023), <https://www.fbi.gov/news/press-releases/international-law-enforcement-agencies-issue-joint-warning-about-global-financial-sextortion-crisis>.

and wholly inadequate and ineffective parental controls, among others—that allow children to be easily identified, targeted, accessed, and exploited.

123. Compounding the problem, Defendants routinely fail to report abuse. Steve Grocki, the U.S. Department of Justice’s Chief of the Criminal Division’s Child Exploitation & Obscenity Section, put it this way: “A lot of times, someone has come across something problematic and the platform isn’t doing anything[.]” He went on to say, “[t]hese reports can be of great value because they signal where there are big problems and we can flag those issues to Internet companies, such as when platforms are being exploited by offenders, they aren’t meeting reporting requirements, or when children under the age restriction are accessing inappropriate content.”<sup>138</sup>

124. By failing to implement adequate age and identity verification on the platforms, Defendants knowingly and foreseeably place children in the pathways of sexual predators, who utilize their platforms and exploit their defective design features. Age verification on Defendants’ platforms can be defective for a variety of reasons, including:

- a. Inaccurate information: Users can easily enter false information, such as a fake date of birth, to bypass age restrictions;
- b. No measures to prevent sham accounts: Defendants’ platforms are structured so that users can easily create multiple accounts under different names and ages; and
- c. Incomplete implementation: Defendants’ platforms only partially implement age verification, such as requiring users to provide their date of birth but not verifying it through any means.

125. To be sure, Defendants possess the technology to identify minors who are posing as adults and adults who are posing as minors, but they do not use this information to identify violative accounts and remove them from their platforms.

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<sup>138</sup> Equality Now, *Steve Grocki Expert Interview - United States* (Nov. 15, 2021), <https://www.equalitynow.org/stories/steve-grocki-expert-interview-united-states/>.

126. For example, by making minors' profiles public by default, certain Defendants have supplied sexual predators with detailed background information about children, including their friends, activities, interests, and even location. By providing this information, these Defendants put children at risk of being approached and befriended by sexual predators. These young targets had no idea that their posts, friends, pictures, and general online sharing represented a windfall of information that a predator could use to sexually exploit or abuse them.

127. Meta, ByteDance, and Google are aware of these very real risks that public-by-default accounts for minors can cause by leaving minors broadly exposed to adult strangers, and yet have only recently (in response to litigation) begun to create default privacy settings for youth accounts—even though they have been aware of these harmful interactions for years.

128. Defendants whose platforms have Direct Message features have also lagged behind in restricting who can reach minor users through those features. That is particularly egregious in the case of Meta, whose own research has made clear that the vast majority of unwanted interactions received by these accounts come from unconnected adults.<sup>139</sup>

129. Defendants' parental controls are also defective in giving parents effective control over their children's online activity, which can lead to kids connecting with predators. These defects take several forms:

- a. Limited scope: parental control tools only partially cover a child's activity, leaving gaps that predators can exploit;
- b. Inadequate monitoring: parental control tools do not provide real-time monitoring of a child's activity, meaning that harmful interactions with predators go unnoticed;
- c. Lack of customization: parents are not able to fully customize their parental control settings to meet the specific needs of their family and children, leaving them with a one-size-fits-all solution that is wholly ineffective in preventing connections with predators; and

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<sup>139</sup> META3047MDL-003-00107197.

- d. Opt-in format: parental control tools that require parents to affirmatively link to their child's account are futile when parents are not notified that their minor child has opened an account on the platform in the first place.

130. Defendants are well aware that vulnerable young users—whom Defendants induce to spend large amounts of time on their platforms, through a powerful combination of algorithmic recommendations and addictive features designed to make it hard for a user to disengage—are uniquely susceptible to grooming by seasoned sexual predators. Research shows that young users are heavily reliant on their social connections—exploring and shaping their identity through their social relationships.

131. Defendants' defective features have benefited sexual predators in many other ways as well. For example, sexual predators leverage Defendants' use of ephemeral, "disappearing" technology to assure young users that there is no risk to them sending a sexual photo or video. Trusting young users are then horrified to discover that these videos have been captured by predators and then circulated to their own friends and contacts or other sexual predators. In some severe cases, young users find themselves in the nightmarish scheme known as "sextortion," where a predator threatens to circulate the sexual images of the minor unless the predator is paid to keep the images under wraps. Law enforcement agencies across the country report that this scheme has become pervasive on Defendants' platforms.

132. As a direct and foreseeable consequence of Defendants' platforms connecting children to sexual predators, Defendants' platforms facilitate and increase the risk of sexual exploitation, sexual abuse, and sextortion of children.<sup>140</sup>

133. Tragically, for the young users who have been groomed and cajoled into creating or sending CSAM, these images are rapidly shared, reproduced, and disseminated to other sexual

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<sup>140</sup> "Sextortion is a form of sexual exploitation. The offender uses coercion and threats to compel the victim to produce sexual images or videos engaging in sexual acts. Sometimes the offender already possesses nude or sexual images of the victim, and is threatening to release them if the victim will not do as the offender commands." United States Attorney's Office Southern District of Indiana, What is Sextortion?, <https://www.justice.gov/media/844516/dl?inline>.

predators at an astonishing rate. A 2021 article published in Fast Company revealed, “Facebook noted that more than 90% of the reported CSAM content on its platforms was the ‘same as or visibly similar to previously reported content,’ which is the crux of the problem. Once a piece of CSAM content is uploaded, it spreads like wildfire....”<sup>141</sup> Each time their images are disseminated it represents a fresh revictimization of young users who are unable to stop the proliferation and spread of their images. Despite this knowledge, Defendants failed to design their apps with readily available technology or less exploitative features that in conjunction with each other could curb, rather than fuel, the sexual exploitation and sextortion of adolescent users, as well as limit the distribution of known CSAM on their platforms.

134. Tools like PhotoDNA and YouTube’s CSAI Match are image comparison technologies that can detect matches between modified versions of the same image or images. Consider two versions of the same image: one in full color, the other in black and white. To the human eye, these are understood to be images depicting the same thing, but to a computer, they are entirely different. These tools return values indicating the “closeness” between two images.<sup>142</sup> This process, sometimes called “fuzzy matching” or “perceptual hashing,” looks at the visual content of the image instead of the exact binary image data (i.e., the digital fingerprint or cryptographic hash).

135. Although Defendants have used PhotoDNA and other hash-matching technology to compare suspect images against databases of previously verified CSAM provided by law enforcement or child protection agencies,<sup>143</sup> their design modifications have diminished the

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<sup>141</sup> Glen Pounder & Rasty Turek, *On social media, child sexual abuse material spreads faster than it can be taken down*, Fast Company (July 14, 2021), <https://www.fastcompany.com/90654692/on-social-media-child-sexual-abuse-material-spreads-faster-than-it-can-be-taken-down>.

<sup>142</sup> Microsoft, How does PhotoDNA work?, <https://www.microsoft.com/en-us/photodna>.

<sup>143</sup> This is a process called “hashing.” For a fuller explanation, see Hany Farid, *An Overview of Perceptual Hashing*, J. of Online Trust and Safety (Oct. 2021) at 2-3, <https://tsjournal.org/index.php/jots/article/download/24/14> and Jennifer Langston, *How photodna for video is being used to fight online child exploitation*, On the Issues (2020), <https://news.microsoft.com/on-the-issues/2018/09/12/how-photodna-for-video-is-being-used-to-fight-online-child-exploitation/>.

effectiveness and success of these hash-matching technologies and detection models. Hashmatching detection can be made more effective by, for example, prioritizing factors like “tolerance” (i.e., specificity) over “efficiency” (i.e., cost and scalability) and “distinctness” (i.e., more specificity).<sup>144</sup>

136. In addition, Defendants have defectively designed their platforms’ reporting tools so that they actually impede the ability of young users and their parents to report CSAM or material related to child exploitation. A 2020 report by the Canadian Centre for Child Protection revealed that social media companies design their platforms in a way that makes reporting CSAM difficult, if not impossible, for users.<sup>145</sup> While CSAM can be reported as generally harmful material, Defendants designed their platforms with no specific function to report CSAM contraband. Defendants could easily do so.

137. Plaintiffs’ reports of CSAM, and requests to remove and take down such material from Defendants’ platforms, often fall on deaf ears. In many cases, Defendants have failed to take action until legal correspondence was sent.<sup>146</sup>

138. For minor victims addicted to Defendants’ platforms, the inability to report illegal images as contraband delays their removal and results in repeated re-victimization. Experience shows that minors become obsessed with monitoring the spread of their own CSAM in a desperate attempt to control what often becomes an endless invasion of their privacy.<sup>147</sup> The Canadian Centre

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<sup>144</sup> Hany Farid, *An Overview of Perceptual Hashing*, *Journal of Online Trust and Safety* (October 2021) at 2-3, <https://tsjournal.org/index.php/jots/article/download/24/14> (“In practice, the choice of a hash is based on a number of factors, including: 1. Scale. When operating at the scale of a major social media platform, for example, with billions of daily uploads, any hash must be highly efficient and distinct. At this scale, even a 1/100 or even 1/10,000 false positive rate (incorrectly matching two images) is untenable. 2. Tolerance. When trying to limit the upload of, for example, legal adult pornography, resilience may be less important than, for example, trying to limit child sexual abuse imagery.”).

<sup>145</sup> Canadian Centre for Child Protection, *Reviewing Child Sexual Abuse Material Reporting Functions on Popular Platforms*, [https://protectchildren.ca/pdfs/C3P\\_ReviewingCSAMMaterialReporting\\_en.pdf](https://protectchildren.ca/pdfs/C3P_ReviewingCSAMMaterialReporting_en.pdf).

<sup>146</sup> Angus Crawford, Facebook failed to remove sexualised images of children, BBC News (Mar. 7, 2017), <https://www.bbc.com/news/technology-39187929>.

<sup>147</sup> *Id.*



for Child Protection reported that one CSAM victim stated, “I spend hours every day searching for my own content, reporting thousands of accounts and posts sharing CSAM. When platforms don’t actively look for or prevent this content from being uploaded, the burden falls on me to have these images removed.”<sup>148</sup>

139. This design defect also hinders Defendants’ ability to provide timely information to child welfare and law enforcement agencies, even when Defendants know or should know children are in immediate danger.<sup>149</sup>

140. Further, Defendants have unreasonably increased their platforms’ dangerousness to children by failing to utilize freely available and industry-proven child protection tools such as Project Arachnid Shield, a CSAM detection platform that processes thousands of images per second and sends removal notices to electronic services providers. Project Arachnid Shield is a free Application Programming Interface (“API”) that Defendants could incorporate into the design of their apps, which would increase their safety and prevent child exploitation and the distribution of CSAM through their platforms.<sup>150</sup> Designing their platforms with such existing and free technology would reduce the amount of CSAM being uploaded onto their platforms to be used as grooming tools on Defendants’ adolescent users. Again, to be clear, CSAM is contraband material.

141. In 2021, the Thorn organization published a report detailing the myriad problems of child sexual exploitation that were present throughout Facebook, Instagram, TikTok, Snapchat and YouTube.<sup>151</sup> Thorn contacted Meta and provided a topline read-out of its findings and offered to meet with Meta to give the company a deeper look at Thorn’s data.<sup>152</sup>

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<sup>148</sup> Angus Crawford, Facebook failed to remove sexualised images of children, BBC News (Mar. 7, 2017), <https://www.bbc.com/news/technology-39187929>.

<sup>149</sup> Canadian Centre for Child Protection, Resources & Research: Reviewing Child Sexual Abuse Material Reporting Functions On Popular Platforms, <https://protectchildren.ca/en/resourcesresearch/csam-reporting-platforms/> (last visited Feb 9, 2023).

<sup>150</sup> Project Arachnid, <https://www.projectarachnid.ca/en/#shield>.

<sup>151</sup> META3047MDL-003-00186841 (May 2021, Responding to Online Threats: Minors’ Perspectives on Disclosing, Reporting and Blocking. Findings from 2020 Quantitative Research among 9-17 year olds).

<sup>152</sup> META3047MDL-003-00186838.

142. Thorn’s key findings about the prevalence of sexual exploitation on Defendants’ platforms are startling:

- a. “[O]ne-quarter of participants (25%) reported having had an online sexual interaction with someone they thought was 18 or older;”
- b. “Younger (9-13) children and LGBTQ+children are at higher risk (9-13 year olds 20% sexual experience with adult, 32% of LGBTQ youth);”
- c. “Neither blocking nor reporting [offenders] protects minors from continued harassment;”
- d. “[R]ecidivism is a problem: over half of participants who had blocked (55%) or reported (55%) someone, said they were recontacted online. Younger boys are particularly at risk;”
- e. “Kids reporting having difficulties finding the right reporting categories when they did decide to report- they also noted that things like “involves a child” doesn’t resonate with them as teens;”
- f. “17% of respondents who used FB say they have had a harmful experience, 10% said they had a sexual interaction on the platform;”
- g. “26% of respondents who used IG say they have had a harmful experience, 16% said they have had a sexual interaction on the platform;” 18% of respondents who used Messenger say they have had a harmful experience, 11% said they had a sexual interaction on the platform. In 6% of these sexual interactions the minor believed the person was 18+.”<sup>153</sup>

According to investigations by The Wall Street Journal and researchers at Stanford University and the University of Massachusetts Amherst, Instagram connects and promotes a “vast network of accounts openly devoted to the commission and purchase of [CSAM].”<sup>154</sup> It does so, in part, by

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<sup>153</sup> META3047MDL-003-00186838.

<sup>154</sup> Jeff Horwitz and Katherine Blunt, *Instagram Connects Vast Pedophile Network*, Wall St. J. (June 7, 2023), <https://www.wsj.com/articles/instagram-vast-pedophile-network-4ab7189>.

allowing searches for explicit hashtags including #pedowhore and #preteensex. Accounts offering CSAM and in-person “meet ups advertise with such terms.”<sup>155</sup>

143. In fact, even when Instagram has identified terms it knows to be associated with CSAM, it simply warns users searching these terms that “These results may contain images of child sexual abuse” and allows them to “see results anyway.”<sup>156</sup>



144. Meta’s weak enforcement and its community building feature, recommendation algorithms, and direct messaging make Instagram the most important platform for networks that help connect buyers and sellers of CSAM.<sup>157</sup>

145. Disturbingly, Meta employees with experience working on Instagram child-safety initiatives have estimated the number of accounts that exist for the primary purpose of following accounts catering to the pedophile community number in the “high hundreds of thousands, if not

<sup>155</sup> Jeff Horwitz and Katherine Blunt, *Instagram Connects Vast Pedophile Network*, Wall St. J. (June 7, 2023), <https://www.wsj.com/articles/instagram-vast-pedophile-network-4ab7189>.

<sup>156</sup> *Id.*

<sup>157</sup> Jeff Horwitz and Katherine Blunt, *Instagram Connects Vast Pedophile Network*, Wall St. J. (June 7, 2023), <https://www.wsj.com/articles/instagram-vast-pedophile-network-4ab7189>.

millions.”<sup>158</sup> Meta could but has not changed its platform features to prevent pedophiles from normalizing child abuse on its platform.

146. One former employee, David Thiel, now chief technologist at the Stanford Internet Observatory said, “You have to put guardrails in place for something that growth-intensive to still be nominally safe, and Instagram hasn’t.”<sup>159</sup>

**C. META MARKETS AND DESIGNS FACEBOOK AND INSTAGRAM TO ADDICT YOUNG USERS, SUBSTANTIALLY CONTRIBUTING TO THE MENTAL HEALTH CRISIS**

**1. Background and overview of Meta’s platforms.**

147. Meta operates and designs Facebook and Instagram, two of the world’s most popular social media platforms. In 2022, two billion users worldwide were active on Instagram each month, and almost three billion were monthly active users of Facebook.<sup>160</sup> This enormous reach has been accompanied by enormous damage for adolescent users.

148. Meta understands that its platforms are used by kids under 13: “there are definitely kids this age on IG [Instagram] . . . they aren’t supposed to be on IG at all.”<sup>161</sup> It understands that its platforms are addictive: “(1) teens feel addicted to IG and feel a pressure to be present, (2) like addicts, they feel that they are unable to stop themselves from being on IG, and (3) the tools we currently have aren’t effective at limiting their time on the ap (sic).”<sup>162</sup> It understands that addictive use leads to problems: “it just keeps people coming back even when it stops being good for them.”<sup>163</sup> And it understands that these problems can be so extreme as to include encounters

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<sup>158</sup> Jeff Horwitz and Katherine Blunt, *Instagram Connects Vast Pedophile Network*, Wall St. J. (June 7, 2023), <https://www.wsj.com/articles/instagram-vast-pedophile-network-4ab7189>.

<sup>159</sup> *Id.*

<sup>160</sup> Alex Barinka, *Meta’s Instagram Users Reach 2 Billion, Closing In on Facebook*, Bloomberg (Oct. 26, 2022), <https://www.bloomberg.com/news/articles/2022-10-26/meta-s-instagram-users-reach-2-billion-closing-in-on-facebook>.

<sup>161</sup> META3047MDL-003-00123666.

<sup>162</sup> META3047MDL-003-00157036.

<sup>163</sup> META3047MDL-003-00011760 at META3047MDL-003-00011761.

between adults and minors—with such “sex-talk” 32x more prevalent on Instagram than on Facebook<sup>164</sup> and driven largely by a single defect.<sup>165</sup>

149. Despite this knowledge, Meta has abjectly failed at protecting child users of Instagram and Facebook. Rather than stand up a five-alarm effort to stop the problems created by its platforms, “the mental health team stopped doing things . . . it was defunded . . . completely stopped.”<sup>166</sup> “We’ve consistently deprioritized addiction as a work area.”<sup>167</sup> Zuckerberg himself was warned personally: “We are not on track to succeed for our core well-being topics (problematic use, bullying & harassment, connections, and SSI), and are at increased regulatory risk and external criticism. These affect everyone, especially Youth and Creators; if not addressed, these will follow us into the Metaverse. . . .”<sup>168</sup>

150. Meta has done next to nothing. And its reason was simple: “the growth impact was too high.”<sup>169</sup> Taking action would lower usage of (and therefore lower profits earned from) a critical audience segment. “Youth and Teens are critically important to Instagram . . . there’s a new group of 13-year-olds every year and the competition over their Social Media engagement has never been more fierce.”<sup>170</sup>

151. Meta’s frequent gestures towards youth safety were never serious and always driven by public relations: “it’s all theatre.”<sup>171</sup> Meta offered tools to kids and parents, like “time spent,” that it knew presented false data —“Our data as currently shown is incorrect. . . . We’re sharing bad metrics externally. . . . we vouch for these numbers.”<sup>172</sup> At the same time, Meta engaged in a cynical campaign to “counter-messag[e] around the addiction narrative” by discrediting existing research

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<sup>164</sup> META3047MDL-003-00119838.

<sup>165</sup> This defect, “People You May Know,” allows adults to connect with minors on Facebook and Instagram.

<sup>166</sup> META3047MDL-003-00011697 at META3047MDL-003-00011698.

<sup>167</sup> META3047MDL-003-00157133 at META3047MDL-003-00157134.

<sup>168</sup> META3047MDL-003-00188109 at META3047MDL-003-00188114 (footnote omitted). “SSI” refers to “suicide and self-injury.” META3047MDL-003-00068863.

<sup>169</sup> META3047MDL-003-00013254 at META3047MDL-003-00013254.

<sup>170</sup> META3047MDL-003-00030070 at META3047MDL-003-00030071.

<sup>171</sup> META3047MDL-003-00053803 at META3047MDL-003-00053803.

<sup>172</sup> META3047MDL-003-00157133.

as “completely made up...”<sup>173</sup> Meta knew better. Indeed, both Zuckerberg and Instagram CEO Adam Mosseri heard firsthand from a leading researcher that Instagram and Facebook posed unique dangers to young people.

**a. Facebook’s acquisition and control of Instagram.**

152. On or around April 6, 2012, Zuckerberg called Kevin Systrom, one of the co-founders of Instagram, offering to purchase his company.<sup>174</sup>

153. Instagram launched as a mobile-only app that allowed users to create, filter, and share photos. On the first day of its release in October 2010, it gained a staggering 25,000 users.<sup>175</sup> By April 2012, Instagram had approximately 27 million users. When Instagram released an Android version of its app—right around the time of Zuckerberg’s call—it was downloaded more than a million times in less than a day.<sup>176</sup> Instagram’s image-based platform popularity is so widespread, a new term has grown up around it for the perfect image or place: “Instagrammable.”<sup>177</sup>

154. On April 9, 2012, just days after Zuckerberg’s overture to Systrom, Facebook, Inc. purchased Instagram, Inc. for \$1 billion in cash and stock. This purchase price was double the valuation of Instagram implied by a round of funding the company closed days earlier.<sup>178</sup>

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<sup>173</sup> META3047MDL-003-00082165 at META3047MDL-003-00082165 - META3047MDL-003-00082166.

<sup>174</sup> Nicholas Carlson, *Here’s The Chart That Scared Zuckerberg Into Spending \$1 Billion On Instagram*, Insider (Apr. 14, 2012), <https://www.businessinsider.com/heres-the-chart-that-scared-zuckerberg-into-spending-1-billion-on-instagram-2012-4>.

<sup>175</sup> Dan Blystone, *Instagram: What It Is, Its History, and How the Popular App Works*, Investopedia (Oct. 22, 2022), <https://www.investopedia.com/articles/investing/102615/story-instagram-rise-1-photo0sharing-app.asp#:~:text=History%20of%20Instagram>.

<sup>176</sup> Kim-Mai Cutler, *From 0 to \$1 billion in two years: Instagram’s rose-tinted ride to glory*, TechCrunch (Apr. 9, 2012), <https://techcrunch.com/2012/04/09/instagram-story-facebook-acquisition/>.

<sup>177</sup> Sarah Frier, *No Filter* 81 (2020).

<sup>178</sup> Alexia Tsotsis, *Right Before Acquisition, Instagram Closed \$50M At A \$500M Valuation From Sequoia, Thrive, Greylock And Benchmark*, TechCrunch (Apr. 9, 2012), <https://techcrunch.com/2012/04/09/right-before-acquisition-instagram-closed-50m-at-a-500m-valuation-from-sequoia-thrive-greylock-and-benchmark/>.

155. Facebook, Inc. held its initial public offering less than two months after acquiring Instagram, Inc.<sup>179</sup>

156. Zuckerberg's willingness to pay a premium for Instagram was driven by his instinct that Instagram would be vital to reaching a younger, smartphone-oriented audience—and thus critical to his company's going-forward success.

157. This was prescient. Instagram's revenue grew exponentially from 2015 to 2022.<sup>180</sup> A study conducted in the second quarter of 2018 showed that, over the prior year, advertisers' spending on Instagram grew by 177%—more than four times the growth of ad spending on Facebook.<sup>181</sup> Likewise, visits to Instagram rose by 236%, nearly *thirty* times the growth in site visits experienced by Facebook during the same period.<sup>182</sup> By 2021, Instagram accounted for over half of Meta's \$50.3 billion in net advertising revenues.<sup>183</sup>

158. Meta has claimed credit for Instagram's success since its acquisition. Zuckerberg told market analysts that Instagram “wouldn't be what it is without everything that we put into it, whether that's the infrastructure or our advertising model.”<sup>184</sup>

159. Instagram has become the most popular photo-sharing social media platform among teenagers and young adults in the United States. 62% of American teens use Instagram, with 10%

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<sup>179</sup> Evelyn Rusli & Peter Eavis, *Facebook Raises \$16Billion in I.P.O.*, N.Y. Times (May 17, 2012), <https://archive.nytimes.com/dealbook.nytimes.com/2012/05/17/facebook-raises-16-billion-in-i-p-o/>.

<sup>180</sup> See Josh Constone, *Instagram Hits 1 Billion Monthly Users, Up From 800M in September*, TechCrunch (June 20, 2018), <https://techcrunch.com/2018/06/20/instagram-1-billion-users/> (showing meteoric rise in monthly active users over period and reporting year-over-year revenue increase of 70% from 2017-2018).

<sup>181</sup> Merkle, *Digital Marketing Report 3* (Q2 2018), <https://www.merkleinc.com/thought-leadership/digital-marketing-report/digital-marketing-report-q2-2018>.

<sup>182</sup> *Id.* at 19.

<sup>183</sup> Sara Lebow, *For the First Time, Instagram Contributes Over Half of Facebook's US Ad Revenues*, eMarketer (Nov. 2, 2021), <https://www.emarketer.com/content/instagram-contributes-over-half-of-facebook-us-ad-revenues>.

<sup>184</sup> Salvador Rodriguez, *Mark Zuckerberg Is Adamant that Instagram Should Not Be Broken Off from Facebook*, CNBC (Oct. 20, 2019), <https://www.cnbc.com/2019/10/30/mark-zuckerberg-is-adamant-that-instagram-should-remain-with-facebook.html>.



of users reporting that they use it “almost constantly.”<sup>185</sup> Instagram’s young user base has become even more important to Meta as the number of teens using Facebook has decreased over time.<sup>186</sup>

160. Facebook’s and Instagram’s success, and the riches they have generated for Meta, have come at an unconscionable cost in human suffering. In September 2021, The Wall Street Journal began publishing internal documents leaked by former Facebook employee Frances Haugen.<sup>187</sup>

161. The documents are disturbing. They reveal that, according to Meta’s researchers, 13.5% of U.K. girls reported more frequent suicidal thoughts and 17% of teen girls reported worsening eating disorders after starting to use Instagram.<sup>188</sup> Over 40% of Instagram users who reported feeling “unattractive” said that feeling began while using Instagram,<sup>189</sup> and 32% of teen girls who already felt bad about their bodies felt even worse because of the app.<sup>190</sup>

162. Internal Meta presentations from 2019 and 2020 were unsparing in their conclusions about the harms caused by Instagram: “We make body image issues worse for one in three teen girls.”

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<sup>185</sup> Emily Vogels et al., *Teens, Social Media and Technology 2022*, Pew Research. Ctr. (Aug. 10, 2022), <https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022/>; see also Piper Sandler, *Taking Stock With Teens* 19 (Fall 2021), [https://piper2.bluematrix.com/docs/pdf/3bad99c6-e44a-4424-8fb1-0e3adfcdbd1d4.pdf?utm\\_source=newsletter&utm\\_medium=email&utm\\_campaign=newsletter\\_axi\\_osam&stream=top](https://piper2.bluematrix.com/docs/pdf/3bad99c6-e44a-4424-8fb1-0e3adfcdbd1d4.pdf?utm_source=newsletter&utm_medium=email&utm_campaign=newsletter_axi_osam&stream=top) (eighty-one percent of teens use Instagram at least once a month).

<sup>186</sup> Sheera Frenkel et al., *Instagram Struggles with Fears of Losing Its ‘Pipeline’: Young Users*, N.Y. Times (Oct. 26, 2021), available at <https://www.nytimes.com/2021/10/16/technology/instagram-teens.html>.

<sup>187</sup> The collection of Wall Street Journal articles are available online via the following link: <https://www.wsj.com/articles/the-facebook-files-11631713039?mod=bigtop-breadcrumb>.

<sup>188</sup> Morgan Keith, *Facebook’s Internal Research Found its Instagram Platform Contributes to Eating Disorders and Suicidal Thoughts in Teenage Girls, Whistleblower Says*, Insider (Oct. 3, 2021), <https://www.businessinsider.com/facebook-knows-data-instagram-eating-disorders-suicidal-thoughts-whistleblower-2021-10>.

<sup>189</sup> Georgia Wells, Jeff Horwitz, Deepa Seetharaman, *Facebook Knows Instagram is Toxic for Teen Girls, Company Documents Show*, Wall St. J. (Sept. 14, 2021), <https://www.wsj.com/articles/facebook-knows-instagram-is-toxic-for-teen-girls-company-documents-show-11631620739>; Facebook Staff, *Teen Girls Body Image and Social Comparison on Instagram – An Exploratory Study in the U.S.* 9 (Mar. 26, 2020), <https://s.wsj.net/public/resources/documents/teen-girls-body-image-and-social-comparison-on-instagram.pdf>.

<sup>190</sup> Billy Perrigo, *Instagram Makes Teen Girls Hate Themselves. Is That a Bug or a Feature?*, Time (Sept. 16, 2021), <https://time.com/6098771/instagram-body-image-teen-girls/>.

“Mental health outcomes related to this can be severe.” “Aspects of Instagram exacerbate each other to create a perfect storm.”<sup>191</sup>

163. Haugen’s revelations made clear to the public what Meta has long known: in an effort to addict kids and promote usage, Meta’s platforms exploit the neurobiology of developing brains, and all the insecurities, status anxieties, and beauty comparisons that come along with it. In a bid for higher profits, Meta ignored the harms resulting from its overuse-oriented business model, which are widespread, serious, long-term, and in tragic instances fatal.

## **2. Meta intentionally encourages youth to use its platforms and then leverages that usage to increase revenue.**

164. Facebook and Instagram owe their success to their defective design, including their underlying computer code and algorithms. Meta’s tortious conduct begins before a user has viewed, let alone posted, a single scrap of content.

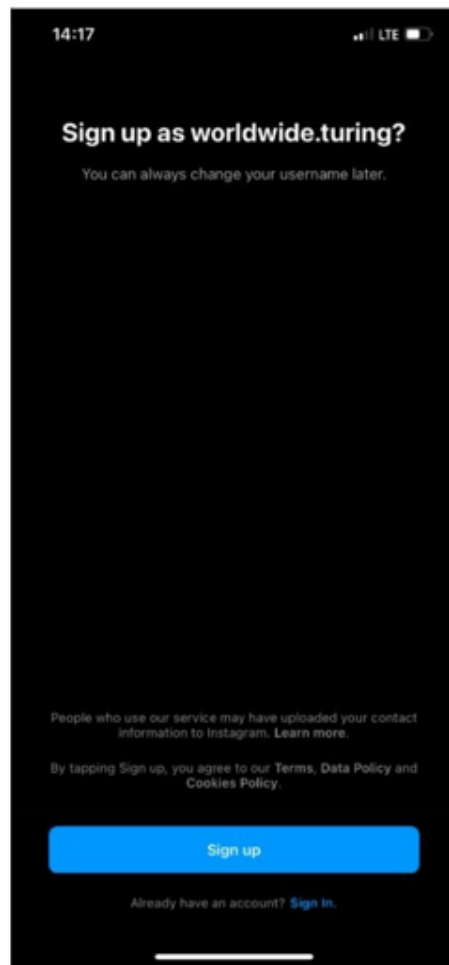
165. Meta describes Instagram as a “mobile-first experience.”<sup>192</sup> Indeed, the great majority of Instagram users in the U.S. access Instagram through a mobile application for either the iOS or Android operating system.

166. In order to use the Facebook or Instagram app, one must first obtain it. On a mobile device, this is accomplished by visiting a store from which the app can be downloaded—either the Apple App Store (for iPhone users) or the Google Play Store (for Android users). Once installed onto an individual’s smartphone, they can open the app. They are then asked to create a new account by entering an email address, adding a name, and creating a password and username.

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<sup>191</sup> Georgia Wells, Jeff Horwitz, Deepa Seetharaman, *Facebook Knows Instagram is Toxic for Teen Girls, Company Documents Show*, Wall St. J. (Sept. 14, 2021), <https://www.wsj.com/articles/facebook-knows-instagram-is-toxic-for-teen-girls-company-documents-show-11631620739>; The Wall Street Journal, *Teen Girls Body Image and Social Comparison on Instagram – An Exploratory Study in the U.S.*, Wall St. J. (Sept. 29, 2021), <https://s.wsj.net/public/resources/documents/teen-girls-body-image-and-social-comparison-on-instagram.pdf>.

<sup>192</sup> Yorgos Askalidis, *Launching Instagram Messaging on Desktop*, Instagram (Sept. 25, 2020), <https://about.instagram.com/blog/engineering/launching-instagram-messaging-on-desktop>.



167. A prospective Instagram or Facebook user is then invited to press a colorful button that says “Sign up.” In small print above this button, the user is informed: “By tapping Sign up, you agree to our Terms, Data Policy and Cookies Policy.” The text of those policies is not presented on the sign-up page. While the words “Terms,” “Data Policy,” and “Cookies Policy” are slightly bolded, the user is not informed that they can or should click on them, or otherwise told how they can access the policies.

168. Meta’s Data Policy (rebranded as a “Privacy Policy” in 2022), which applies to a raft of Meta apps, including Facebook and Instagram,<sup>193</sup> indicates Meta collects a breathtaking amount of data from the users of its platforms, including:

- a. “[c]ontent that you create, such as posts, comments or audio;”
- b. “[c]ontent you provide through our camera feature or your camera roll settings, or through our voice-enabled features;”
- c. “[i]nformation you’ve shared with us through device settings, such as GPS location, camera access, photos and related metadata;”
- d. “[m]essages that you send and receive, including their content;”
- e. “Metadata about content and messages;”
- f. “[t]ypes of content that you interact with, and how you interact with it;”
- g. “[t]he time, frequency and duration of your activities on our products;”
- h. “your contacts’ information, such as their name and email address or phone number; if you choose to upload or import it from a device, such as by syncing an address book;”
- i. information about “What you’re doing on your device (such as whether our app is in the foreground or if your mouse is moving;”
- j. “device signals from different operating systems,” including “things such as nearby Bluetooth or Wi-Fi connections;”
- k. “[i]nformation about the network that you connect your device to,” which includes “The name of your mobile operator or Internet service provider (ISP), Language, Time zone, Mobile phone number, IP address, Connection speed, Information about other devices that are

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<sup>193</sup> Meta, *Privacy Policy*, Meta (Jan. 1 2023), <https://mbasic.facebook.com/privacy/policy/printable/#annotation-1>.

nearby or on your network, Wi-Fi hotspots you connect to using our products;” and

1. “information from...third parties, including...[m]arketing and advertising vendors and data providers, who have the rights to provide us with your information.”

169. The Data Policy presents those goals as benign and even positive for its users—“to provide a personalized experience to you” and to “make suggestions for you such as people you may know, groups or events that you may be interested in or topics that you may want to follow.”

170. The Data Policy does not inform users that the more time individuals spend using Facebook and Instagram, the more ads Meta can deliver and the more money it can make, or that the more time users spend on Facebook and Instagram, the more Meta learns about them, and the more it can sell to advertisers the ability to micro-target highly personalized ads.<sup>194</sup>

171. Meta monetizes its users and their data by selling ad placements to marketers. Meta generated \$69.7 billion from advertising in 2019, more than 98% of its total revenue for the year.<sup>195</sup>

172. Given its business model, Meta has every incentive to—and knowingly does—addict users to Facebook and Instagram. It accomplishes this through the algorithms that power its apps,

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<sup>194</sup> Nor does it inform users that Meta has allowed third-party apps to harvest from Facebook “vast quantities of highly sensitive user and friends permissions.” *In re Facebook, Inc.*, No. 18-md-02843-VC, ECF No. 1104 at 9 (N.D. Cal. Feb. 9, 2023). This has included an app called Sync.Me, which—according to Meta’s internal investigative documents—“had access to many ‘heavyweight’ permissions,” “including the user’s entire newsfeed, friends’ likes, friends’ statuses, and friends’ hometowns.” *In re Facebook, Inc.*, No. 18-md-02843-VC, ECF No. 1104 at 9 (N.D. Cal. Feb. 9, 2023). It has included Microstrategy, Inc., which accessed data from “16 to 20 million” Facebook users, despite only being installed by 50,000 people. *In re Facebook, Inc.*, No. 18-md-02843-VC, ECF No. 1104 at 9 (N.D. Cal. Feb. 9, 2023). And it has included one Yahoo app that made “billions of requests” for Facebook user information, including “personal information about those users’ friends, including the friends’ education histories, work histories, religions, politics, ‘about me’ sections, relationship details, and check-in posts.” *In re Facebook, Inc.*, No. 18-md-02843-VC, ECF No. 1104 at 9-10 (N.D. Cal. Feb. 9, 2023).

<sup>195</sup> Rishi Iyengar, *Here’s How Big Facebook’s Ad Business Really Is*, CNN (July 1, 2020), <https://www.cnn.com/2020/06/30/tech/facebook-ad-business-boycott>.

which are designed to induce compulsive and continuous scrolling for hours on end, operating in conjunction with the other defective features described throughout this Complaint.<sup>196</sup>

173. Meta’s Data Policy contains no warnings whatsoever that use of its platforms at the intensity and frequency targeted by Meta creates known risks of mental, emotional, and behavioral problems for children, Instagram’s key audience.

174. Instagram’s collection and utilization of user data begins the instant a user presses “Sign Up.” At that point, Instagram prompts a new user to share a substantial amount of personal data. First, Instagram asks the user to share their personal contacts, either by syncing contacts from their phone and/or syncing their “Friends” from Facebook—“We’ll use your contacts to help you find your friends and help them find you.” Next, Instagram asks the new user to upload a photo of themselves. After that, Instagram asks the user to “Choose your interests” in order to “Get started on Instagram with account recommendations tailored to you.” And finally, Instagram invites the new user to “Follow accounts to see their photos and videos in your feed,” offering a variety of recommendations. After sign-up is completed, Instagram prompts the new user to post either a photo or a short video.

175. Meta’s collection and utilization of user data continues unabated as a new user begins to interact with its platforms. Meta’s tracking of behavioral data—ranging from what the user looks at, to how long they hover over certain images, to what advertisements they click on or ignore—helps Meta build out a comprehensive and unique fingerprint of the user’s identity. As the user continues to use the app, Meta’s algorithm works silently in the background to refine this fingerprint, by continuously monitoring and measuring patterns in the user’s behavior. Meta’s

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<sup>196</sup> See Christian Montag, et al., *Addictive Features of Social Media/Messenger Platforms and Freemium Games against the Background of Psychological and Economic Theories*, 16 Int’l J. Env’t Rsch. and Pub. Health 2612, 5 (July 2019), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6679162/> (“One technique used to prolong usage time in this context is the endless scrolling/streaming feature.”); see generally, Ludmila Lupinacci, ‘Absentmindedly scrolling through nothing’: liveness and compulsory continuous connectedness in social media, 43 Media, Culture & Soc’y 273 (2021), <https://journals.sagepub.com/doi/epdf/10.1177/0163443720939454> (describing the ways that users use and experience social media apps).

algorithm is sophisticated enough that it can leverage existing data to draw educated inferences about even the user behavior it does not track firsthand. Meta's comprehensive data collection allows it to target and influence its users in order to increase their "engagement" with its apps.

176. Meta's collection and analysis of user data allows it to assemble virtual dossiers on its users, covering hundreds if not thousands of user-specific data segments. This, in turn, allows advertisers to micro-target marketing and advertising dollars to very specific categories of users, who can be segregated into pools or lists using Meta's data segments. Only a fraction of these data segments come from content knowingly designated by users for publication or explicitly provided by users in their account profiles. Many of these data segments are collected by Meta through covert surveillance of each user's activity while using the app and when logged off the platform, including behavioral surveillance that users are unaware of, like navigation paths, watch time, and hover time. Essentially, the larger Meta's user database grows, the more time the users spend on the database, and the more detailed information that Meta can extract from its users, the more money it makes.

177. Currently, advertisers can target Instagram and Facebook ads to young people based on age, gender, and location.<sup>197</sup> According to U.S.-based non-profit Fairplay, Meta did not actually cease collecting data from teens for advertising in July 2021, as Meta has claimed.<sup>198</sup>

178. Meta clearly understands the revenue and growth potential presented by its youngest users, and it is desperate to retain them. Documents obtained by *The New York Times* indicate, that since 2018, almost all of Instagram's \$390 million global marketing budget has gone towards showing ads to teenagers.<sup>199</sup>

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<sup>197</sup> Andrea Vittorio, *Meta's Ad-Targeting to Teens Draws Advocacy Group Opposition*, Bloomberg (Nov. 16, 2021), <https://news.bloomberglaw.com/privacy-and-data-security/metad-targeting-to-teens-draws-advocacy-group-opposition>.

<sup>198</sup> *Id.*

<sup>199</sup> Sheera Frenkel, et al, *Instagram Struggles With Fears of Losing Its 'Pipeline': Young Users* N.Y. Times (Oct. 16, 2021), <https://www.nytimes.com/2021/10/16/technology/instagram-teens.html>.



179. Meta has studied features and designs from its other platforms to make Instagram as attractive and addictive as possible to young users. Meta’s flagship platform, Facebook, was the original testing ground for many of Instagram’s addicting and otherwise defective features, which the two platforms share to this day. This feature overlap is no accident: it represents a conscious strategy adopted by Meta to keep social media users hooked on its “family” of platforms for their entire lives.

180. Before the rise of Instagram, Facebook was the social media platform by which Meta targeted young users. Until recently, when youth Facebook usage began to drop, this targeting was devastatingly effective.

181. While the number of teen Facebook users has declined in recent years, Facebook remains critical to Meta’s strategy towards young users. Meta views Facebook as the nexus of teen users’ lives on social media, “where all social circles intersect,” and as filling a similar role for such users as the career-focused social media platform LinkedIn fills for adults.<sup>200</sup> According to the summary of a 2018 meeting, Meta’s expressed goal was to have users “move through” Meta’s platforms “as they grow, i.e. Messenger Kids → Instagram → Facebook.”<sup>201</sup>

182. To create this cycle, and notwithstanding restrictions under COPPA, Meta has targeted kids as young as six. The centerpiece of these efforts is Messenger Kids (“MK”).<sup>202</sup> In 2019, Meta conducted at least two research projects on growing MK. One study explored how to use “Playdates as a Growth Lever for Messenger Kids.”<sup>203</sup> During this study, Meta sought to understand better how playdates might be an area to increase usage among kids by interviewing parents of active users and the young users themselves.<sup>204</sup> Investigators suggested there was an opportunity to “brainstorm features and/or prompts encouraging use of the app prior and after

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<sup>200</sup> META3047MDL-003-00171899 at META3047MDL-003-00171909.

<sup>201</sup> META3047MDL-003-00003731 at META3047MDL-003-00003732.

<sup>202</sup> Nick Stat, *Facebook launches a version of Messenger for young children*, The Verge (December 4, 2022) <https://www.theverge.com/2017/12/4/16725494/facebook-messenger-kids-app-launch-ios-iphone-preview>.

<sup>203</sup> Haugen\_00023087 at Haugen\_00023087.

<sup>204</sup> *Id.* at Haugen\_00023088, Haugen\_00023097.

playdates to improve retention and active threads.”<sup>205</sup> Later that year, they released a finding from a second investigation of parents and children who used MK and those who did not.<sup>206</sup> To drive MK growth, the study recommended “encourag[ing] more K2K [kid-to-kid] connections in MK” by “surfac[ing] and develop[ing] additional in-app activities that involve others,” while emphasizing to parents the “play-based messaging” and the “play aspect of MK—camera filters, games, filters via notifs and QPs.”<sup>207</sup> These are many of the same defective features found in Instagram.

183. Meta was also eager to market its platforms to tweens—users aged 10-12. Although Meta employees publicly denied using children as “guinea pigs” to develop features, internally Meta was intensely interested in children’s use of their apps.<sup>208</sup> It conducted research projects with titles such as “Tweens JTBD Survey”<sup>209</sup> and “Exploring Tweens Social Media Habits.”<sup>210</sup> In the latter study, Meta compared tween perceptions of their competitors’ apps to understand “tween product needs,”<sup>211</sup> noting that tweens can “connect and have fun using existing apps, even though they’re not made with a 10-to-12-year-old in mind.”<sup>212</sup> Meta’s takeaway was to “use entertainment/interest as a starting point for engagement” and to “highlight fitting in.”<sup>213</sup>

184. Meta’s interest, efforts, and success in expanding the presence of its platforms in children’s lives is clear. Given the delicate, developing nature of the young brain and Meta’s creation of social media platforms designed to promote repetitive, compulsive use, it is not surprising that American society is now grappling with the ramifications of Meta’s growth-at-any-

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<sup>205</sup> Haugen\_00023087 at Haugen\_00023090.

<sup>206</sup> Haugen\_00023066.

<sup>207</sup> *Id.* at Haugen\_00023085.

<sup>208</sup> John Twomey, *Molly Russell Inquest Latest: Teenager Viewed Suicide Videos of ‘Most Distressing Nature’*, Express (Sept. 23, 2022), <https://www.express.co.uk/news/uk/1673461/Molly-Russell-inquest-latest-Teenager-suicide-videos-instagram>.

<sup>209</sup> “JTBD” appears to stand for “Jobs to Be Done.” Haugen\_00024450 at Haugen\_00024454.

<sup>210</sup> Haugen\_00023849 at Haugen\_00023850.

<sup>211</sup> *Id.* at Haugen\_00023888.

<sup>212</sup> *Id.* at Haugen\_00023886.

<sup>213</sup> *Id.* at Haugen\_00023888.

cost approach. In a candid moment, a Software Engineer at Meta admitted, “It’s not a secret that we’ve often resorted to aggressive tactics in the name of growth, and we’ve been pretty unapologetic about it.”<sup>214</sup>

185. From the beginning, both the Facebook and Instagram platforms have exploited vulnerabilities in human psychology to addict users and maximize user time and engagement. Facebook’s first President, Sean Parker, summed up the devastating impact of this design decision in a 2017 interview:

God only knows what it's doing to our children's brains. . . . The thought process that went into building these applications, Facebook being the first of them, . . . was all about: ‘How do we consume as much of your time and conscious attention as possible?’ . . . And that means that we need to sort of give you a little dopamine hit every once in a while, because someone liked or commented on a photo or a post . . . . And that’s going to get you to contribute more content, and that’s going to get you . . . more likes and comments. . . . It’s a social-validation feedback loop . . . exactly the kind of thing that a hacker like myself would come up with, because you’re exploiting a vulnerability in human psychology. . . . The inventors, creators — it’s me, it’s Mark [Zuckerberg], it’s Kevin Systrom on Instagram, it’s all of these people — understood this consciously. And we did it anyway.<sup>215</sup>

Tellingly, many tech leaders, including individuals with inside knowledge of the defects of Meta’s social media platforms, either ban or severely limit their own children’s access to screen time and social media.<sup>216</sup> Such leaders in the field include Tim Cook and former Facebook executives Tim

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<sup>214</sup> Haugen\_00000934 at Haugen\_00000934.

<sup>215</sup> Mike Allen, *Sean Parker unloads on Facebook: “God only knows what it’s doing to our children’s brains,”* Axios (Nov. 9, 2017), <https://www.axios.com/2017/12/15/sean-parker-unloads-on-facebook-god-only-knows-what-its-doing-to-our-childrens-brains-1513306792>.

<sup>216</sup> Samuel Gibbs, *Apple’s Tim Cook: “I Don’t Want My Nephew on a Social Network”*, The Guardian (Jan. 19, 2018), <https://www.theguardian.com/technology/2018/jan/19/tim-cook-i-dont-want-my-nephew-on-a-social-network#:~:text=The%20head%20of%20Apple%2C%20Tim,it%20was%20announced%20on%20Friday>; James Vincent, *Former Facebook Exec Says Social Media is Ripping Apart Society*, The Verge (Dec. 11, 2017), <https://www.theverge.com/2017/12/11/16761016/former-facebook-exec-ripping-apart-society>.

Kendall and Chamath Palihapitiya.<sup>217</sup> The Messenger Kids App was announced at the end of 2017.<sup>218</sup> In a 2019 interview on Fox News’ “The Daily Briefing,” Zuckerberg admitted that he generally doesn’t want his children sitting in front of screens for long periods of time.<sup>219</sup>

### **3. Meta intentionally designed features to addict children and adolescents.**

186. Meta designed Facebook and Instagram with harmful defects that users encounter at every stage of interaction with the platforms. These defects, which have harmed adolescents that use the platforms, include but are not limited to: (a) recommendation algorithms, fueled by extensive data collection, which are designed to promote use in quantities and frequency harmful to adolescents; (b) product features that prey upon children’s desire for validation and need for social comparison; (c) product features that are designed to create harmful loops of repetitive and excessive product usage; (d) a lack of effective mechanisms, despite having the ability to implement them, to restrict children’s usage of the platforms; (d) inadequate parental controls, and facilitation of unsupervised use of the platforms; and (e) intentionally placed obstacles to discourage cessation of use of the platforms.

187. Facebook and Instagram have been designed, maintained, and constantly updated by one of the world’s most wealthy, powerful, and sophisticated corporations. Large teams of expert data scientists, user experience (“UX”) researchers, and similar professionals have spent years fine-tuning these platforms to addict users. Every aspect of the platforms’ interfaces, each layer of their

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<sup>217</sup> Samuel Gibbs, *Apple’s Tim Cook: “I Don’t Want My Nephew on a Social Network”*, The Guardian (Jan. 19, 2018), <https://www.theguardian.com/technology/2018/jan/19/tim-cook-i-dont-want-my-nephew-on-a-social-network#:~:text=The%20head%20of%20Apple%2C%20Tim,it%20was%20announced%20on%20Friday>; James Vincent, *Former Facebook Exec Says Social Media is Ripping Apart Society*, The Verge (Dec. 11, 2017), <https://www.theverge.com/2017/12/11/16761016/former-facebook-exec-ripping-apart-society>.

<sup>218</sup> Loren Cheng, *Introducing Messenger Kids, a New App For Families to Connect*, (Dec. 4, 2017), <https://about.fb.com/news/2017/12/introducing-messenger-kids-a-new-app-for-families-to-connect/>.

<sup>219</sup> Fox News, *The Daily Briefing* (Oct. 18, 2019), available at <https://www.foxnews.com/video/6095989196001#sp=show-clips>.

subsurface algorithms and systems, and each line of underlying code has been crafted by brilliant minds. Every detail—the color of icons, the placement of buttons within the interface, the timing of notifications, etc.—is designed to increase the frequency and length of use sessions. Therefore, it is impractical to create a comprehensive list of addictive, harm-causing defects in the app until in-depth discovery occurs. Many features, such as the inner workings of Meta’s algorithms, are secret and unobservable to users. Discovery during this litigation will reveal additional detail about the defective, addictive, and harmful design of Meta’s platforms.

**a. Facebook’s and Instagram’s algorithms maximize engagement, promoting use at levels and frequency that is harmful to kids.**

188. Meta has invested its vast resources to intentionally design Facebook and Instagram to be addictive to adolescents, all the while concealing these facts from its users and the public.

189. In its original form, Meta’s Facebook and Instagram algorithms ranked chronologically, meaning that a particular user’s feed was organized according to when content was posted or sent by the people the user followed. In 2009, Meta did away with Facebook’s chronological feed in favor of engagement-based ranking; in 2016, it did the same on Instagram. This “engagement-based” system meant that posts that received the most likes and comments were highlighted first for users. But facing declining engagement, Meta redesigned its algorithms once again in or around early 2018. This change prioritized “meaningful social interaction” (“MSI”), with the goal of showing users content with which they were more likely to engage. The MSI-oriented algorithms purportedly emphasize the interactions of users’ connections; e.g., likes and comments, and give greater significance to the interactions of connections that appear to be closest to users. Meta’s current algorithms consider a post’s likes, shares, and comments, as well as a plethora of data points about a respective user’s behavior, including their past interactions with posts with similar characteristics, and displays the post in the user’s feed if it meets these and certain other benchmarks.

190. While Meta has publicly attempted to cast MSI as making time spent on its platforms more “meaningful,” MSI was actually just another way for Meta to increase user engagement on Instagram and Facebook. While the feature increases the likelihood that an interaction will be “meaningful” according to Meta’s algorithms and the data points fed to it, it does not consider whether recommended content is “meaningful” to the user. This sets up users who may have reacted negatively to upsetting or dangerous posts to see more of the same. That, in turn, can lead to a “horrible feedback loop/downward spiral”—with negative reactions leading the algorithm to present more posts that generate more negative reactions.

191. In algorithmically generating users’ feeds, Meta draws upon the vast amount of data it collects about and from its users. Meta’s algorithms combine the user’s profile (e.g., the information posted by the user on the platform) and the user’s dossier (the data collected and synthesized by Meta, to which it assigns categorical designations) along with a dossier of similar users. Meta’s algorithms identify and rank recommended posts to optimize for various outcomes, such as for time-spent by a user or for user engagement. This often has the effect that Meta’s algorithms direct users to alarming and aversive material.

192. Much of what Meta shows users is content that they did not sign up for. In a 2019 internal document, a Meta data scientist explained: “users have told us the pages they would like to see content from, but we often override those explicit preferences because our predictions of what will get shared and engaged with disagree.”<sup>220</sup> This same employee pointed to additional data demonstrating that users get relatively little connected content (content from pages they chose to like) as opposed to unconnected content that is reshared by others, even as Meta knows that such content is less valued by users.<sup>221</sup>

193. Meta also optimizes the design of its platforms for overall “network value”—that is, what will get the most downstream engagement by other users—rather than what that specific

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<sup>220</sup> Haugen\_00021247 at Haugen\_000212448; see also Haugen\_00006798 at Haugen\_00006799 (Meta Research Scientist in 2019: “it’s at best unclear whether users ‘want’ us to put unconnected stories in their feed, even if they like some of them.”).

<sup>221</sup> *Id.* at Haugen\_000212448.

user would like.<sup>222</sup> As one Meta employee put it, “we show things to users that we think they have a small chance of sharing, leading to comments between people who see it downstream over things that have a greater chance of being explicitly liked by that user.”<sup>223</sup>

194. Through its algorithms, Meta intentionally supplants what users have elected to see with what it believes will drive more use and engagement. Thus, the platforms that Meta touts as “[g]iv[ing] people the power to build community and bring[ing] the world closer together,” are actually designed in a way that prioritizes not social connection but platform use at all costs, even to the detriment of the health and safety of young people.<sup>224</sup> The result, for Meta, is an increase in its bottom line. The result for young users is apps that are so addictive that they return again and again, platform sometimes up to ten hours a day or even more, to the detriment of their mental, emotional, and physical health.

195. Meta knew that its engagement-based ranking algorithm (and its subsequent, iterative MSI ranking algorithm) was structured in a way that meant that content which produces intense reactions (i.e., strong engagement) triggers amplification by the apps. This propels users into the most reactive experiences, favoring posts that generate engagement because they are extreme in nature. Zuckerberg publicly recognized this in a 2018 post, in which he demonstrated the correlation between engagement and sensational posts so extreme that they impinge upon Meta’s own ethical limits, with the following chart:<sup>225</sup>

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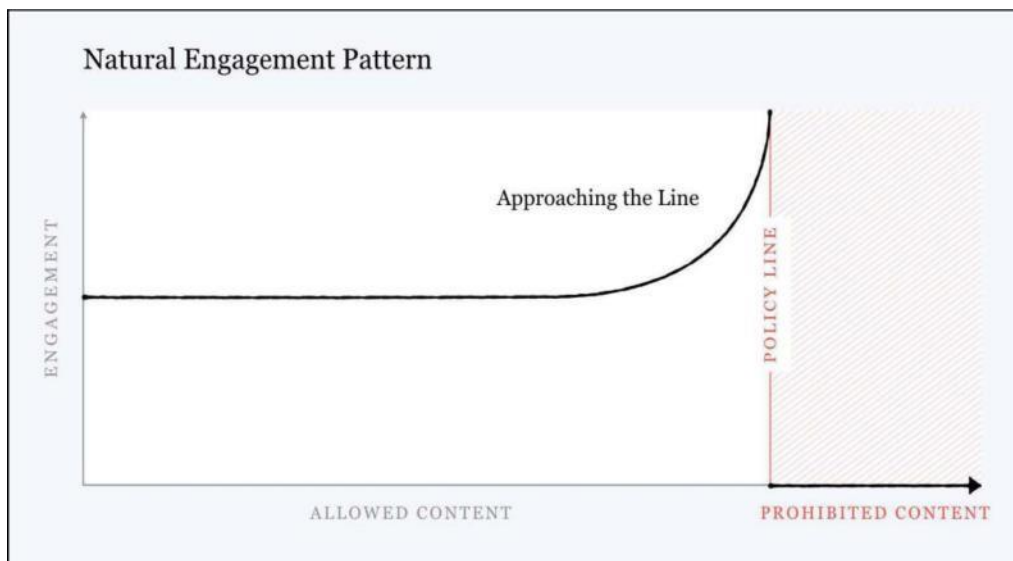
<sup>222</sup> Haugen\_00021247 at Haugen\_00021251.

<sup>223</sup> *Id.*

<sup>224</sup> Meta, *Mission Statement*, Meta, <https://about.meta.com/company-info/>.

<sup>225</sup> Mark Zuckerberg, *A Blueprint for Content Governance and Enforcement*, Facebook, <https://www.facebook.com/notes/751449002072082/>.





While Zuckerberg went on to claim that Meta had designed its algorithms to avoid this natural propensity of engagement-based algorithms, his claim to the public is belied by extensive research indicating Meta’s platforms do amplify extreme material.

196. Other documents show that Meta’s employees also discussed their motive for changing the design of the algorithm—namely, that users began to interact less with the app, which became a worrisome trend for Meta’s bottom-line. Meta’s engagement-based algorithm (including its MSI variant) was designed to drive more engagement by any means necessary, which, in turn, helped Meta sell more of the digital ads that generated most of their revenue. In 2016, one Facebook Tech Lead wrote: “[W]e only cared about things like time spent, open links, etc. That’s what we optimized for. That’s what we used to define success and failure. And that’s the problem.”<sup>226</sup>

197. Meta intentionally designed its MSI-focused algorithms to collect and analyze several kinds of data: a user’s profile, what the user reports, what the user posts, what the user views and engages with, navigation paths, watch time, hover time (the amount of time a user viewed a piece of content), whether a user mutes or unmutes a video, and whether a user makes a

<sup>226</sup> Haugen\_00001033.

full video screen, among other data. Meta uses this data from adolescents to predict what posts will capture the user's attention. Meta also tracks and utilizes data from various other sources, such as a user's off-app activities and the activities on websites that contain Facebook or Instagram like or share buttons.<sup>227</sup>

198. Meta's algorithmic ranking is utilized in a variety of features that are designed by Meta to maximize user engagement.

199. For example, Instagram consists primarily of a never-ending and user-specific Feed, which Instagram's data-driven algorithms generate for each user. In the app's "Home" pane, this feed includes (but is not limited to) photos and videos posted by Instagram users that the user has elected to "follow," as well as recommended photos and videos. In the app's "Explore" pane, the feed consists almost exclusively of photos and videos from users the user has *not* elected to "follow." In both cases, Instagram's algorithms evaluate each user's data to predict what material will maximize their attention and time spent using the app, irrespective of what the user wants to see.

200. Other features that are similarly algorithmically powered include Facebook's Newsfeed, Instagram's Feed, Instagram Reels, Facebook Reels, Facebook Watch (and its "For You" page), Accounts to Follow, People You May Know (introductions to persons with common connections or backgrounds), Groups You Should Join, and Discover (recommendations for Meta groups to join).

201. These app features work in combination to create and maintain a user's "flow-state": a hyper-focused, hypnotic state, where bodily movements are reflexive and the user is totally immersed in smoothly rotating through aspects of the social media platform.<sup>228</sup>

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<sup>227</sup> Allen St. John, *How Facebook Tracks You, Even When You're Not on Facebook*, Consumer Reports (April 11, 2018), <https://www.consumerreports.org/privacy/how-facebook-tracks-you-even-when-youre-not-on-facebook-a7977954071/>.

<sup>228</sup> See e.g., *What Makes TikTok so Addictive?: An Analysis of the Mechanisms Underlying the World's Latest Social Media Craze*, Brown Undergraduate J. of Pub. Health (2021), <https://sites.brown.edu/publichealthjournal/2021/12/13/tiktok/> (describing how IVR and infinite scrolling may induce a flow state in users).

202. They also create a phenomenon that Meta employees refer to as “fee[d]ing the spiral.”<sup>229</sup> Because of the structure of the defective algorithm powering features like Explore, “someone feeling bad sees content that makes them feel bad, they engage with it, and then their IG is flooded w[ith] it.”<sup>230</sup> Meta recognizes that Instagram users at risk of suicide or self-injury are more likely to “encounter more harmful suicide and self-injury content (through explore, related, follower suggestions, etc).”<sup>231</sup> Because Meta’s algorithm prioritizes engagement above all else, any harmful feeling or impulse that users have are amplified by Instagram—which becomes an echo chamber screaming their most upsetting thoughts back at them.

203. This phenomenon was cast into vivid relief when 14 year-old Molly Russell took her own life after she was pushed reams of content related to suicide, self-injury, and depression by Instagram and several other platforms.<sup>232</sup> After an official inquest investigating the role that social media platforms played in her death, the coroner found that Molly “died from an act of self-harm whilst suffering from depression and the negative effects of on-line content” that she had not sought out, but that the platforms’ algorithms had pushed on her.<sup>233</sup> “The platform operated in such a way using algorithms as to result, in some circumstances, of binge periods of images, video clips and text some of which were selected and provided without Molly requesting them. These binge periods ... are likely to have had a negative effect on Molly.... In some cases, the content was particularly graphic, tending to portray self-harm and suicide as an inevitable consequence of a condition that could not be

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<sup>229</sup> META3047MDL-003-00121808. Meta employees sometimes refer to this “spiral” as a “rabbit hole.” See also META3047MDL-003-00077939 at META3047MDL-003-00077939.

<sup>230</sup> META3047MDL-003-00121808.

<sup>231</sup> META3047MDL-003-00068863 at META3047MDL-003-00068905, META3047MDL-003-00068878; see also META3047MDL-003-00042548 (“[P]eople who are suffering from depression and self-harm go down IG rabbit holes, and explore functionality compounds this issue.”).

<sup>232</sup> Dan Milmo, *Social Media Firms ‘Monetising Misery’, Says Molly Russell’s Father After Inquest*, The Guardian (Sept. 20, 2022), <https://www.theguardian.com/uk-news/2022/sep/30/molly-russell-died-while-suffering-negative-effects-of-online-content-rules-coroner>.

<sup>233</sup> Ryan Merrifield, *Molly Russell Inquest: Instagram Boss Says Suicidal Posts Shouldn’t Be Banned From App*, The Mirror (Sept. 26, 2022), <https://www.mirror.co.uk/news/uk-news/molly-russell-inquest-instagram-boss-28085269>.

recovered from. The sites normalized her condition focusing on a limited and irrational view without any counterbalance of normality.”<sup>234</sup> The coroner further observed that “[t]here was no age verification when signing up to the on-line platform” and that Molly’s parents “did not have access, to the material being viewed or any control over that material.”<sup>235</sup>

204. Disturbingly, years before Meta sent an executive to the inquest to tout its platforms as “safe,” Meta had conducted internal research which warned that there was a risk of “similar incidents like Molly Russell” because algorithmic features were “[l]eading users to distressing content.”<sup>236</sup>

205. Despite Molly’s death, and notwithstanding Meta’s research into dangerous spirals—at one point dubbed the “Rabbithole project”—the company did nothing to stop harm to its young users. Meta has been clear about the problem: for young users, “our recommendations algorithms will start pushing you down a rabbit hole of more egregious content.”<sup>237</sup> They have been clear about potential solutions: targeted changes to the algorithm.<sup>238</sup> But they have been resistant to making changes, for the explicit, profit-minded reason that such tweaks “came with a clear engagement cost.”<sup>239</sup>

**b. Facebook’s and Instagram’s user interfaces are designed to create addictive engagement.**

206. To further drive user engagement (and thereby drive data collection and advertising revenue), Facebook and Instagram also utilize a series of design features that are carefully calibrated to exploit users’ neurobiology. These features work in tandem with algorithmic ranking to promote addictive engagement.

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<sup>234</sup> Andrew Walker, H.M. Coroner, *Regulation 28 Report to Prevent Future Deaths 2* (Oct. 13, 2022), [https://www.judiciary.uk/wp-content/uploads/2022/10/Molly-Russell-Prevention-of-future-deaths-report-2022-0315\\_Published.pdf](https://www.judiciary.uk/wp-content/uploads/2022/10/Molly-Russell-Prevention-of-future-deaths-report-2022-0315_Published.pdf).

<sup>235</sup> *Id.*

<sup>236</sup> META3047MDL-003-00043617 at META3047MDL-003-00043644.

<sup>237</sup> META3047MDL-003-00077939; *see also* META3047MDL-003-00068860 at \*60 (users “seeking” bad experiences can “get into a rabbithole of getting more and more bad content on our surfaces.”); META3047MDL-003-00087111 at 7112 (acknowledging that a majority of “negative experiences” come from algorithmically-powered features like explore and hashtags).

<sup>238</sup> META3047MDL-003-00077939.

<sup>239</sup> *Id.*

207. *First*, Meta programs IVR into its platforms. Behavioral training via intermittent rewards keeps users endlessly scrolling in search of a dopamine release, oftentimes despite their desire to put their phone down and move onto other activities. Children, who are less likely to have adequate impulse control than adults, are more susceptible to being drawn into this engineered “flow state” and more likely to grow dependent on Facebook or Instagram.

208. *Second*, Facebook and Instagram utilize “Likes” to control the release of dopamine in children. This feature, which Meta created for Facebook and “introduced ... to the world” in 2010, allows users to indicate that they “Like” a post and visibly tallies the number of “Likes” any given post has earned.<sup>240</sup> Instagram launched in 2010 with the like feature built-in—a user can “Like” a post simply by tapping a heart-shaped button.

209. As with a slot machine, users never know when a like will come. This conditions them to stay on the app. But it also exacerbates issues of social comparison and feedback seeking, creating detrimental effects on adolescent physical and mental health. Indeed, Meta knows from its own internal research that the like feature negatively impacts its younger users.<sup>241</sup> In that research, Meta acknowledged how much users care about the number of likes they received.<sup>242</sup>

210. Despite this knowledge, Meta has expanded the likes feature in both Facebook and Instagram. In December 2016, Meta began allowing users to like comments, not just posts. In February 2022, Meta began allowing users to “Like” Instagram Stories.<sup>243</sup> Expanding the like feature has intensified and multiplied the body of feedback that teen users receive (or don’t receive) on their posts, preying on their desire to seek validation through comparison with others.

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<sup>240</sup> Ray C. He, *Introducing new Like and Share Buttons*, Meta (Nov. 6, 2013), <https://developers.facebook.com/blog/post/2013/11/06/introducing-new-like-and-share-buttons/>.

<sup>241</sup> See Haugen\_00008207 at Haugen\_00008210 (explaining the stress and anxiety that likes cause teens).

<sup>242</sup> *Id.* at Haugen\_0008232.

<sup>243</sup> Jhinuk Sen, *Instagram is adding Likes to Stories so it doesn’t clog up people’s inboxes*, Business Today (Feb. 15, 2022), <https://www.businesstoday.in/technology/news/story/instagram-is-adding-likes-to-stories-so-it-doesnt-clog-up-peoples-inboxes-322661-2022-02-15>.

211. Meta’s research confirms that hiding likes for all of its users would decrease social comparison associated with like counts.<sup>244</sup> Unfortunately, its research also demonstrated that hiding likes would decrease the rates at which users click on advertisements (and thereby lower Meta’s ad revenue).<sup>245</sup>

212. For this reason, although it has the ability to alleviate the negative impact of likes on younger users, Meta chose only to implement half-measures. Meta created the option for users to hide like counts in May 2021, but it made this an optional setting left off by default.<sup>246</sup> Moreover, the number of likes remain visible to the poster of the content. These changes stop short of resolving the issue of negative social comparison that these score-keeping features inflict.

213. *Third*, Meta has designed its video features in several ways geared to maximizing users’ flow state and keeping them immersed in its platforms for longer periods of time. Video clips on Facebook Reels and Instagram Reels automatically play as a user scrolls and automatically restart once they conclude. Reels cannot be paused and tapping on the video will simply mute its audio. In addition, Meta imposes limits on the length of video content on Reels (currently 90 seconds, and at times as short as 15 seconds). These limits ensure that users do not become bored by long videos and end their sessions.

214. Meta designed the comment features of Reels to minimize any disruption to users’ heightened flow state. The interface of Reels displays the “Like,” “Comment,” “Save,” and “Share” buttons on the bottom right of the screen. This placement avoids the milliseconds of delay or discomfort that could disrupt the flow state of right-handed users if placed elsewhere on the screen. Furthermore, these buttons are overlaid on top of the continuously playing clips, to eliminate any temporal or visual interruption during which a user might evaluate whether to continue using the platform. Likewise, when a user taps to view the comments on a Reel, the

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<sup>244</sup> Haugen\_0008207 at Haugen\_0008232.

<sup>245</sup> *Id.* at Haugen\_0008250.

<sup>246</sup> Meta, *Giving People More Control on Instagram and Facebook* (May 26, 2021), <https://about.fb.com/news/2021/05/giving-people-more-control/>.

video's audio and the top quarter of the video continue to play behind the comments section.

Again, this design feature keeps the user's attention on the feed.

215. In keeping with its study of IVR, Meta knows when to strategically interrupt a user's flow. Occasionally, while a video is playing, a comment from the video will appear on the bottom of the screen, even without the user tapping to view the comments section. These comments are selected, displayed, and timed intentionally, to retain a user's attention by engaging with the comments section.

216. *Fourth*, Meta carefully (and defectively) calibrates the notifications it sends outside of the Facebook and Instagram apps, to maximize success in drawing back users who are not presently using the platforms. By default, Facebook and Instagram notify users through text and email about activity that might be of interest, which prompts users to open and reengage with the platforms. However, Meta intentionally chooses to display only a limited amount of information in notifications, in order to trigger curiosity and manipulate the user to click or tap through to the platform.<sup>247</sup> In December 2020, Meta internally acknowledged that the goal of this feature was to optimize engagement at the expense of value to users: "A few years ago we stopped sending out emails telling you what happened - e.g., telling you what your friend did - instead we just say 'someone comment [sic] on your post,' in the hope that you'll click through. This a clear value- engagement tradeoff."<sup>248</sup> Similarly, Meta stopped sending push notifications about friend activities, finding that without notifications, users were forced to go to the app itself to "check what's happening," thereby initiating a new session, increasing engagement, and improving Meta's bottom line.<sup>249</sup> It designed these features despite knowledge that notifications were tied to potentially addictive behaviors,<sup>250</sup> and in disregard of safer alternative designs.<sup>251</sup>

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<sup>247</sup> *Clickbait*, Merriam-Webster Dictionary, <https://www.merriam-webster.com/dictionary/clickbait>.

<sup>248</sup> Haugen\_00010114 at Haugen\_00010117.

<sup>249</sup> *Id.* at Haugen\_00010117.

<sup>250</sup> *See* Haugen\_00016893 at Haugen\_00016899-902.

<sup>251</sup> *Id.* at Haugen\_00016913 (suggesting changing to a subtler form of notifications); Haugen\_00016893 at Haugen\_00016915- Haugen\_00016916 (Meta intern urging the company



217. Meta’s studied manipulation of user engagement through notifications is particularly detrimental to teenagers, who lack impulse control and crave social rewards, and who are therefore more susceptible to falling into compulsive patterns of app use. Those harms are compounded by the fact that Meta sends push notifications in the middle of the night, prompting children to re-engage with Instagram and Facebook the apps when they should be sleeping. Disturbed and insufficient sleep is associated with poor health outcomes.<sup>252</sup>

218. *Fifth*, the “Stories” feature of both Facebook and Instagram is defectively designed to create artificial urgency so that users return to the apps. “Stories” was added by Meta in response to the growing popularity of Snapchat with teenagers in 2016. “Stories” appear at the top of a user’s home page upon opening the app and are available to view for only 24 hours, after which they disappear. This creates pressure to use the app daily, or else risk missing out on dopamine-causing stimuli or social interactions. This feature is particularly addicting to adolescent users, who feel increased social pressure to view all their contacts’ stories each day before the content disappears, thus increasing their compulsive usage and potential addiction to the app.<sup>253</sup> The ephemeral nature of disappearing content is a ploy intended to inspire urgent perusal, and it works.<sup>254</sup>

219. *Sixth*, Instagram’s and Facebook’s algorithms are structured to recommend “keywords” or “hashtags” to its young users that lead them to navigate to dangerous content. One researcher put the matter directly in April 2021: “A recurring area of concern is that we are

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to stop “inundating users with excessive notifications” and instead focus on user experience to create meaningful connections for users).

<sup>252</sup> Nat’l Inst. of Mental Health, *The Teen Brain: Still Under Construction* 6 (2011),

[http://www.ncdsv.org/images/NIMH\\_TeenBrainStillUnderConstruction\\_2011.pdf](http://www.ncdsv.org/images/NIMH_TeenBrainStillUnderConstruction_2011.pdf).

<sup>253</sup> Sarah Lempa, *Why Are Instagram Stories So Addicting?*, Healthline (April 5, 2021), <https://www.healthline.com/health/why-are-instagram-stories-so-addicting#The-story-behind-the-Stories>.

<sup>254</sup> Madiha Jamal, *Ephemeral Content — The Future of Social Media Marketing*, Better Marketing (March 2, 2021), <https://bettermarketing.pub/ephemeral-content-the-future-of-social-media-marketing-996d265916c2#:~:text=Ephemeral%20content%20relates%20to%20the,WhatsApp%20Stories%20C%20and%20LinkedIn%20Stories>.

recommending keywords related to significant safety and wellbeing concerns e.g. weight loss, diet pills, appetite suppressants. We have been flagging these terms as they appear and Product Policy and Product teams have been sweeping the list of keywords to remove them, but this is not sustainable and remains a significant safety, policy, and comms risk. Our current approach of catching all potentially risky terms in a ‘block list’ has not helped us avoid two news cycles, and the possibility of this happening a third time is a significant comms and policy risk.”<sup>255</sup> As another set of Meta researchers acknowledged, the majority of negative experiences on Instagram come not from direct interactions with others (i.e., through comments or direct messages) but rather through algorithmically-generated recommendations, via Explore, Feed, or hashtags.<sup>256</sup>

220. All of the above defects, in addition to the Instagram-specific defects discussed in the section that follows, interact with and compound one another to make Meta’s platforms addictive and harmful for kids.

221. Meta has long been aware of this dangerous and toxic brew, yet has failed to invest in adequate tools to limit the harm their platforms inflicted on users.

222. In 2017, Meta investigated Facebook users who were addicted to the app—that is, those who “cannot stop using [the] product to the point where it can cause them harm.”<sup>257</sup> The research found that, “[i]n a given week, approximately 5.9 million people leave Facebook” because they “spent too much time” or because they were taking a temporary break and “planned to return.”<sup>258</sup> “[T]his subset provided a good signal for people who could be addicted, who ultimately leave Facebook as a solution.”<sup>259</sup> The analysis also found that this subset had a higher number of sessions per day, received more notifications, and responded quicker to notifications

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<sup>255</sup> META3047MDL-003-00184585 at META3047MDL-003-00184587.

<sup>256</sup> META3047MDL-003-00087111 at 7112.

<sup>257</sup> Haugen\_00016893 at Haugen\_00016895. This group’s investigation also included meeting with Nir Eyal, author of the book *Hooked: How to Build Habit-Forming Products*.

<sup>258</sup> *Id.* at Haugen\_00016898.

<sup>259</sup> *Id.*

compared to all users.<sup>260</sup> In 2018, Meta examined the issue of what its researchers called “Facebook addiction” through a study titled “Problematic Facebook Use: When People Feel Like Facebook Negatively Affects Their Life.”<sup>261</sup> The investigators defined “problematic use” as meaning: “Serious problems with sleep, work or relationship that they attribute to Facebook AND concerns or preoccupations about how they use Facebook (e.g., a fear of missing out (FOMO) or lack of control).”<sup>262</sup> Notably, the investigators did not target the heaviest Facebook users in their research.<sup>263</sup>

223. The study found that up to 5% of teens aged 13-20 were problematic users.<sup>264</sup> “Problematic use is highest among teens and people in their 20s, consistent with previous findings that younger people generally have more problems with self-regulation.”<sup>265</sup> Additionally, “problematic users” evidenced common tendencies, such as (a) accessing and spending more time on Facebook; (b) using Facebook late at night; (c) receiving more and responding more quickly to push notifications; (d) temporarily deactivating their account in the past; and (e) sending far more messages per minute with a higher ratio of messages sent to messages received.<sup>266</sup> As noted above, Meta understands that “teens feel addicted to IG and feel a pressure to be present” but “like addicts, they feel that they are unable to stop themselves from being on IG.”<sup>267</sup>

224. A study into Instagram user behaviors from that same year similarly found that “high time spent users do tend to be disproportionately younger users, and these users may warrant extra attention.”<sup>268</sup> The study found that “[a]s time spent increases, we see a larger

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<sup>260</sup> Haugen\_00016893 at Haugen\_00016899-Haugen\_00016802.

<sup>261</sup> Haugen\_00021690 at Haugen\_00021690.

<sup>262</sup> *Id.* at Haugen\_00021692.

<sup>263</sup> *Id.* at Haugen\_00021697.

<sup>264</sup> *Id.* at Haugen\_00021699.

<sup>265</sup> *Id.* at Haugen\_00021697.

<sup>266</sup> *Id.* at Haugen\_00021695-Haugen\_00021697.

<sup>267</sup> META3047MDL-003-00157036 at META3047MDL-003-00157036.

<sup>268</sup> Haugen\_00017177 at Haugen\_00017181.

proportion of users that are high school, college or early work life-stages, with additional increases in high school when we zoom in on the top 1% of time spent users.”<sup>269</sup>

225. Meta knows that “problematic use” of Facebook and Instagram leads to real problems. In one internal company document, Meta acknowledged that the pressure to be present and obtain validation on Instagram meant that teens lacked the capacity to “switch off and shut down,” noting that teens “can get addicted to things that make them feel bad.”<sup>270</sup> One of Meta’s data scientists did not mince words when describing this phenomenon to their colleagues:

I worry that driving sessions incentivize us to make our product more addictive, without providing much more value. How to keep someone returning over and over to the same behavior each day? Intermittent rewards are most effective (think slot machines), reinforcing behaviors that become especially hard to distinguish—even when they provide little reward, or cease providing reward at all.<sup>271</sup>

Another Meta employee was clear-eyed that “little reward” was too charitable—and that addictive use was actively harming kids’ mental health:

In the focus groups teens told us that they don’t like the amount of time they spend on the app but feel like they have to be present. They often feel ‘addicted’ and know that what they’re seeing is bad for their mental health but feel unable to stop themselves. This makes them not feel like they get a break [sic] or to can’t switch off social media. . . .

[A]bout 30% (and an even larger proportions of those who are unsatisfied with their lives) said that the amount of time they spend on social media makes them feel worse. About half of teens in both markets want Instagram to take a break or to get off the app. . . . [In another survey], we found that time spent is among one of the most negative experiences for IG (25%+ say they spend too much time on social media and it’s worst on Instagram and Facebook). At the same time, they didn’t think there was anything they could do about it and had fairly negative things to say about the time spent tools we have (particularly that the tools are easy to ignore).<sup>272</sup>

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<sup>269</sup> Haugen\_00017177 at Haugen\_00017187.

<sup>270</sup> Haugen\_00017069 at Haugen\_00017128, Haugen\_00017132.

<sup>271</sup> Haugen\_00010114 at Haugen\_00010127.

<sup>272</sup> Haugen\_00017069 at Haugen\_00017171.

226. In January 2021, another Meta employee wrote: “No one wakes up thinking they want to maximize the number of times they open Instagram that day. But that’s exactly what our product teams are trying to do.”<sup>273</sup>

227. Meta failed to invest in adequate tools to limit the harm their platforms inflicted on users. As one employee candidly put it: “the tools we currently have aren’t effective at limiting [users’] time on the app.”<sup>274</sup> Nonetheless, Meta publicly presented certain of these tools as solutions, despite knowing of their ineffectiveness. For example, Meta offered to its users a feature that purported to show how much time users had spent on Instagram. And Meta touted this feature “when speaking to consumers, the press, and stakeholders about our efforts to combat social media addiction.”<sup>275</sup> But internally, Meta acknowledged that the data reported by this tool was fundamentally “incorrect”: “It’s not just that Apple / Google have better data. Ours is wrong. Far worse. We’re sharing bad metrics externally. We’ve been unable to right it despite several personmonths of efforts. . . . So it’s wrong (bad enough in itself), can’t be fixed easily (we’ve tried), has been half-rolled-out for a while . . . the group that audits metrics we provide to the outside world, has called us out on it...The reason this is relevant is we vouch for these numbers. Any day they’re out there is a legal liability.”<sup>276</sup>

228. At the end of the day, Meta’s failure to prevent compulsive use by children, and the harms resulting therefrom, are a simple function of its misplaced priorities. One “integrity researcher” at Facebook wrote an internal article in August 2020 with her parting thoughts as she left the company. She explained that Meta’s leadership consistently ignored concerns about user safety: Integrity teams are facing increasing barriers to building safeguards. . . . [T]ime and time again I’ve seen promising interventions from integrity product teams, with strong research and data support be prematurely stifled or severely constrained by key decision makers— often based on fears of public and policy stakeholder responses. Similarly (though even more concerning),

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<sup>273</sup> META3047MDL-003-00161686 at META3047MDL-003-00161686.

<sup>274</sup> META3047MDL-003-00157036.

<sup>275</sup> *Id.*

<sup>276</sup> META3047MDL-003-00157133.

I've seen already built & functioning safeguards being rolled back for the same reasons . . .

While mountains of evidence is (rightly) required to support a new intervention, none is required to kill (or severely limit) one. . . . [This] is intended as a call to reflection for those decision-makers imposing constraints.<sup>277</sup>

229. Meta's decision to hook teenage users by rewiring their brains has not aged well for some of its former employees. Chamath Palihapitiya, the former Vice President of User Growth at Facebook, admitted that he feels "tremendous guilt" about his contributions to social media, saying "[t]he short-term, dopamine-driven feedback loops that we have created are destroying how society works."<sup>278</sup>

**c. Instagram's defective features cause negative appearance comparison and social comparison**

230. Instagram use by teens is associated with negative impacts on body image, social comparison, eating issues, confidence in friendships, and mental health, including anxiety, depression, and suicidal thoughts. Teen users feel worse about themselves while using Instagram. Some link their negative feelings to the platform. Meta has known since at least 2018 that Instagram has a corrosive effect on the well-being of pre-teen and teenage users.<sup>279</sup>

231. Meta has an internal research team comprised of employees with expertise in, inter alia, computer science, psychology, and quantitative and qualitative analysis. From 2019 to 2021, this team conducted a "teen mental health deep dive" which included focus groups, diary studies, and online surveys. One large-scale study paired a survey of tens of thousands of Instagram users

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<sup>277</sup> Haugen\_00021096 at Haugen\_00021097-Haugen\_0002110 (emphasis omitted).

<sup>278</sup> Amy B. Wang, *Former Facebook VP says social media is destroying society with 'dopamine-driven feedback loops'*, Wash. Post (Dec. 12, 2017), <https://www.washingtonpost.com/news/the-switch/wp/2017/12/12/former-facebook-vp-says-social-media-is-destroying-society-with-dopamine-driven-feedback-loops/>.

<sup>279</sup> See, e.g., Georgia Wells, Jeff Horwitz, Deepa Seetharaman, *Facebook Knows Instagram is Toxic for Teen Girls, Company Documents Show*, Wall St. J. (Sept. 14, 2021), <https://www.wsj.com/articles/facebook-knows-instagram-is-toxic-for-teen-girls-companydocuments-show-11631620739>; META3047MDL-003-00146240 at META3047MDL-003-00146256.

with data about the time each respondent spent on Instagram and the type of content they viewed.<sup>280</sup>

232. The evidence collected by Meta’s research team is damning. Among other findings, Defendants’ researchers learned that:

- 41% of teen users of Instagram in the U.S. and U.K. who reported feeling “unattractive” said the feeling began while using the app;<sup>281</sup>
- 32% of teenage girls said that when they felt bad about their bodies, Instagram made them feel worse;<sup>282</sup>
- We make body issues worse for 1 in 3 teen girls;<sup>283</sup>
- “Frequent social comparison is a key driver of subjective well-being and teens say IG makes this problem worse;<sup>284</sup>
- One in five teens say that Instagram makes them feel worse about themselves;<sup>285</sup>
- Two-thirds of teen girls on Instagram experience negative social comparison;<sup>286</sup>

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<sup>280</sup> Georgia Wells, Jeff Horwitz, Deepa Seetharaman, *Facebook Knows Instagram is Toxic for Teen Girls, Company Documents Show*, Wall St. J. (Sept. 14, 2021), <https://www.wsj.com/articles/facebook-knows-instagram-is-toxic-for-teen-girls-companydocuments-show-11631620739>; Haugen\_00017069; META3047MDL-003-00000029.

<sup>281</sup> Georgia Wells, Jeff Horwitz, Deepa Seetharaman, *Facebook Knows Instagram is Toxic for Teen Girls, Company Documents Show*, Wall St. J. (Sept. 14, 2021), <https://www.wsj.com/articles/facebook-knows-instagram-is-toxic-for-teen-girls-companydocuments-show-11631620739>; META3047MDL-003-00000029 at META3047MDL-003-00000043.

<sup>282</sup> Georgia Wells, Jeff Horwitz, Deepa Seetharaman, *Facebook Knows Instagram is Toxic for Teen Girls, Company Documents Show*, Wall St. J. (Sept. 14, 2021), <https://www.wsj.com/articles/facebook-knows-instagram-is-toxic-for-teen-girls-companydocuments-show-11631620739>; Haugen\_00019219 at Haugen\_00019226; META3047MDL003-00001846 at META3047MDL-003-00001852.

<sup>283</sup> Haugen\_00016699 at Haugen\_00016707.

<sup>284</sup> Haugen\_00019219 at Haugen\_00019226.

<sup>285</sup> Georgia Wells, Jeff Horwitz, Deepa Seetharaman, *Facebook Knows Instagram is Toxic for Teen Girls, Company Documents Show*, Wall St. J. (Sept. 14, 2021), <https://www.wsj.com/articles/facebook-knows-instagram-is-toxic-for-teen-girls-companydocuments-show-11631620739>; Haugen\_00017069 at Haugen\_00017091; META3047MDL003-00000029 at META3047MDL-003-00000049.

<sup>286</sup> Haugen\_00019219 at Haugen\_00019226.



- 17% of teen girl Instagram users say the app makes “[e]ating [i]ssues” worse;<sup>287</sup>
- About a quarter of teens who reported feeling “not good enough” said the feeling started on Instagram;<sup>288</sup>
- Many teens said Instagram undermined their confidence in the strength of their friendships;<sup>289</sup>
- Teenagers who struggle with mental health say that Instagram worsens those problems;<sup>290</sup>
- “Teens blame Instagram for increases in the rates of anxiety and depression among teens” in recent years—a response that was unprompted and consistent across all groups;<sup>291</sup>
- Among teens who reported suicidal thoughts, 13% of British users and 6% of American users traced the desire to kill themselves to Instagram;<sup>292</sup> and

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<sup>287</sup> Haugen\_00020135 at Haugen\_00020162.

<sup>288</sup> Georgia Wells, Jeff Horwitz, Deepa Seetharaman, *Facebook Knows Instagram is Toxic for Teen Girls*, *Company Documents Show*, Wall St. J. (Sept. 14, 2021), <https://www.wsj.com/articles/facebook-knows-instagram-is-toxic-for-teen-girls-companydocuments-show-11631620739>; META3047MDL-003-00000029 at META3047MDL-003- 00000043.

<sup>289</sup> *Id.*

<sup>290</sup> Georgia Wells, Jeff Horwitz, Deepa Seetharaman, *Facebook Knows Instagram is Toxic for Teen Girls*, *Company Documents Show*, Wall St. J. (Sept. 14, 2021), <https://www.wsj.com/articles/facebook-knows-instagram-is-toxic-for-teen-girls-companydocuments-show-11631620739>; META3047MDL-003-00000029 at META3047MDL-003- 00000054.

<sup>291</sup> Georgia Wells, Jeff Horwitz, Deepa Seetharaman, *Facebook Knows Instagram is Toxic for Teen Girls*, *Company Documents Show*, Wall St. J. (Sept. 14, 2021), <https://www.wsj.com/articles/facebook-knows-instagram-is-toxic-for-teen-girls-companydocuments-show-11631620739>; META3047MDL-003-00000029 at META3047MDL-003- 00000052.

<sup>292</sup> Georgia Wells, Jeff Horwitz, Deepa Seetharaman, *Facebook Knows Instagram is Toxic for Teen Girls*, *Company Documents Show*, Wall St. J. (Sept. 14, 2021), <https://www.wsj.com/articles/facebook-knows-instagram-is-toxic-for-teen-girls-companydocuments-show-11631620739>; META3047MDL-003-00000029 at META3047MDL-003- 00000043.

- 13.5% of teen girl Instagram users say the app makes thoughts of “suicide and self-injury” worse.<sup>293</sup>

233. Meta’s researchers were clear in explaining that Instagram’s features were responsible for these problems. In one chart illustrating the “High” amount of “Body, Appearance Comparison” on Instagram, researchers cited as contributing factors “Product mechanics (addicting)” and “Explore, discover, stalk (down the rabbit hole).”<sup>294</sup> In another slide, researchers noted the particular problems with Instagram’s Explore feature, as it contains “[t]ons of body image triggers” that are “[i]ntimidating” to users.<sup>295</sup>

234. Children are developmentally unprepared for the psychological ramifications of online comparisons and peer judgment.

235. Meta’s internal researchers were not only clear about the fact that Instagram causes a high level of social comparison for teenagers; they were clear-eyed about the dire consequences. They observed that the addictive nature of Instagram, combined with a tendency for users to share only the best moments and a pressure to match unrealistic beauty ideals can send teens into a downward spiral that includes anger, withdrawal, insecurity, and body dysmorphia— “a series of emotions that in many ways mimic stages of grief.”<sup>296</sup> They further warned that “[u]sers[’] experience of [this] downward spiral is exacerbated by our platform.”<sup>297</sup> “Comparisons on Instagram can change how young women view and describe themselves,” they noted, changing a girl’s self-perception from “multi-dimensional” and “centered” to “not in control,” “dark,” “boxed in,” “low esteem,” and “anxious.”<sup>298</sup> The researchers’ conclusions were stark: “Mental health outcomes related to this can be severe,” and can include “eating disorders,” “body dysmorphia,” “body dissatisfaction,” “depression,” and “loneliness.”<sup>299</sup>

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<sup>293</sup> Haugen\_00016699 at Haugen\_00016707.

<sup>294</sup> Haugen\_00015958 at Haugen\_00015987.

<sup>295</sup> *Id.* at Haugen\_00015989.

<sup>296</sup> *Id.* at Haugen\_00015985.

<sup>297</sup> *Id.* at Haugen\_00015990.

<sup>298</sup> *Id.* at Haugen\_00015983

<sup>299</sup> *Id.* at Haugen\_00015992.

236. Meta’s research demonstrates that social comparison is particularly bad on Instagram because, among other things, celebrity and influencer content is pervasive. By manufacturing and emphasizing influence and celebrity, and purposely inundating tween and teen users with those accounts, Meta further exploits and monetizes social comparison. That has come at a direct cost to the mental health of its teen users, who are more susceptible to body dissatisfaction and negative social comparisons. Meta knows as much. In 2021, its researchers found that exposure to content from “Top Accounts” (i.e., those with the top 0.1% of followers) was most associated with negative comparison and that Instagram’s influence-driven model ensures Top Accounts flood users’ feeds almost half the time.<sup>300</sup>

237. Score-keeping features designed into Instagram amplify these problems. Teenage girls are particularly impacted when comparing like counts, follower counts, views, and comments on their posts to those of models, celebrities, and so-called influencers.

238. Instagram compounds the foregoing problems with yet another pernicious feature— image “filters” that allow users to engage in selective self-presentation by altering their appearance in photos and videos. These filters allow facial structure alteration, body slimming, skin lightening, skin tanning, blemish clearing, the artificial overlap and augmentation of makeup,

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<sup>300</sup> META3047MDL-003-00159559 at META3047MDL-003-00159560.

and other beautification “improvements.”<sup>301</sup> These filters have harmed young users in multiple ways, both independently and in concert with Instagram’s other defective features.<sup>302</sup>



239. First, the easy accessibility of filters, combined with features such as “Likes,” encourage adolescents to artificially change their appearances.<sup>303</sup> As noted, adolescents naturally seek social validation. When they notice increased interaction and favorable responses to their filter-edited photos (more “Likes” and comments), many are led to believe they are only attractive when their images are edited.<sup>304</sup> These young people begin to prefer how they look using filters,

<sup>301</sup> T. Mustafa, *An ‘Instagram Vs Reality’ filter is showing how toxic photo editing can be*, Metro (April 2021); <https://metro.co.uk/2021/04/30/an-instagram-vs-reality-tool-is-showing-how-toxic-filters-can-be-14498265/>; Mariska Kleemans, Serena Daalmans, Ilana Carbaat & Doeschka Anschütz, *Picture Perfect: The Direct Effect of Manipulated Instagram Photos on Body Image in Adolescent Girls*, 21 Media Psychology 93, 93-110 (2018), <https://www.tandfonline.com/doi/pdf/10.1080/15213269.2016.1257392>.

<sup>302</sup> Anna Haines, *From ‘Instagram Face’ To ‘Snapchat Dysmorphia’: How Beauty Filters Are Changing The Way We See Ourselves*, Forbes (Apr. 27, 2021), <https://www.forbes.com/sites/annahaines/2021/04/27/from-instagram-face-to-snapchat-dysmorphia-how-beauty-filters-are-changing-the-way-we-see-ourselves/?sh=3c32eb144eff>.

<sup>303</sup> Tate Ryan-Mosley, *Beauty Filters Are Changing the Way Young Girls See Themselves*, MIT Tech. Rev. (Apr. 2, 2021), <https://www.technologyreview.com/2021/04/02/1021635/beauty-filters-young-girls-augmented-reality-social-media/amp/>.

<sup>304</sup> *Id.*

not as they appear naturally.<sup>305</sup> In a 2016 study, 52% of girls said they use image filters every day, and 80% have used an app to change their appearance before age 13.<sup>306</sup> Meta’s own findings showed teen girls spend hours editing images by altering their appearance before posting on Instagram,<sup>307</sup> and that “teen girls in particular” are “some of the biggest users of these filters.”<sup>308</sup> Pictures must be “Instagrammable” to be worthy of posting.

240. *Second*, because Instagram already promotes a high degree of social comparison, youth find themselves comparing their real-life appearances to the edited appearances not only of themselves but of others online.<sup>309</sup> These false and unrealistic body image standards further lead teenagers to develop negative perceptions of their appearance. 77% of girls reported trying to change or hide at least one part of their body before posting a photo of themselves, and 50% believe they did not look good without editing.<sup>310</sup>

241. *Third*, the specific changes filters make to an individual’s appearance can cause negative obsession or self-hatred surrounding aspects of their appearance.<sup>311</sup> The filters alter specific facial features such as eyes, lips, jaw, face shape, and slimness, which often require medical

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<sup>305</sup> Poojah Shah, *How Social Media Filters Are Affecting Youth*, Parents (Apr. 28, 2022), <https://www.parents.com/kids/health/childrens-mental-health/how-social-media-filters-are-affecting-youth/>.

<sup>306</sup> Anna Haines, *From ‘Instagram Face’ to ‘Snapchat Dysmorphia’; How Beauty Filters Are Changing the Way We See Ourselves*, Forbes (Apr. 27, 2021), <https://www.forbes.com/sites/annahaines/2021/04/27/from-instagram-face-to-snapchat-dysmorphia-how-beauty-filters-are-changing-the-way-we-see-ourselves/?sh=3c2d58704eff>.

<sup>307</sup> Haugen\_00019219 at Haugen\_00019255.

<sup>308</sup> META3047MDL-003-00157020 at META3047MDL-003-00157020.

<sup>309</sup> See *Teen Girls Body Image and Social Comparison on Instagram – An Exploratory Study in the U.S.*, Wall. St. J. (Sept. 29, 2021), <https://s.wsj.net/public/resources/documents/teen-girls-body-image-and-social-comparison-on-instagram.pdf> (explaining that users forget that Instagram only shows the highlights of people’s lives and is not depicting reality).

<sup>310</sup> Anna Haines, *From ‘Instagram Face’ to ‘Snapchat Dysmorphia’; How Beauty Filters Are Changing the Way We See Ourselves*, Forbes (Apr. 27, 2021), <https://www.forbes.com/sites/annahaines/2021/04/27/from-instagram-face-to-snapchat-dysmorphia-how-beauty-filters-are-changing-the-way-we-see-ourselves/?sh=3c2d58704eff>.

<sup>311</sup> Tonya Russell, *Social Media Filters Are Changing How Young People See Themselves*, Teen Vogue (Jan. 25, 2022), <https://www.teenvogue.com/story/social-media-filters-how-young-people-see-themselves/amp>.

intervention to change in real life.<sup>312</sup> The pervasiveness of Meta-designed filters through the algorithm permeates Instagram and causes adolescent users to negatively compare their real appearances against a false physical reality.<sup>313</sup> In one recent study, even users who reported a higher initial self-esteem level felt they looked 44% worse before their image was edited using a filter.<sup>314</sup> “[W]hen the . . . filter increased the gap between how participants wanted to look and how they felt they actually looked, it reduced their self-compassion and tolerance for their own physical flaws.”<sup>315</sup> As one psychodermatologist has summed it up, “these apps subconsciously implant the notion of imperfection and ugliness, generating a loss of confidence.”<sup>316</sup>

242. *Fourth*, Meta has intentionally designed its platform to not alert adolescent users when images have been altered through filters or edited. Meta has therefore designed its app so that users cannot know which images are real and which are fake, deepening negative appearance comparison.

243. The impact of the negative social and appearance comparison caused by Meta’s defective features is profound. Instagram-induced social comparison creates a schism between the ideal self and the real self, leading to distress and depression. Filters, especially in combination with other features, cause body image issues, eating disorders, body dysmorphia, and related harms.<sup>317</sup>

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<sup>312</sup> Tonya Russell, *Social Media Filters Are Changing How Young People See Themselves*, Teen Vogue (Jan. 25, 2022), <https://www.teenvogue.com/story/social-media-filters-how-young-people-see-themselves/amp>.

<sup>313</sup> *Id.*

<sup>314</sup> Ana Javornik, Ben Marder, Marta Pizzetti, & Luk Warlop, *Research: How AR Filters Impact People’s Self-Image*, Harvard Business Review (December 22, 2021), <https://hbr.org/2021/12/research-how-ar-filters-impact-peoples-self-image>.

<sup>315</sup> *Id.*

<sup>316</sup> Genesis Rivas, *The Mental Health Impacts of Beauty Filters on Social Media Shouldn’t Be Ignored – Here’s Why*, InStyle (Sept. 14, 2022), <https://www.instyle.com/beauty/social-media-filters-mental-health>.

<sup>317</sup> See Sian McLean, Susan Paxton, Eleanor Wertheim, & Jennifer Masters, *Photoshopping the Selfie: Self Photo Editing and Photo Investment Are Associated with Body Dissatisfaction in Adolescent Girls*, 48 Int’l J. of Eating Disorders 1132, 1133 (Aug. 27, 2015), <https://pubmed.ncbi.nlm.nih.gov/26311205/> (presenting a 2015 study involving 101 adolescent girls, which found that more time spent editing and sharing selfies on social media raised their



244. Again, none of this has been lost on Meta. To the contrary, Meta has long been aware of the harms Instagram inflicts on youth by perpetuating social comparison to unrealistic beauty standards. In one study from 2019, teens age 13-17 explained that Instagram harms their mental health by creating pressure to conform to social stereotypes and match the body shapes of influencers, the need for validation through views, likes and followers, and the over-sexualization of girls.<sup>318</sup> Meta’s analysis categorized the documented harms into three categories: impacts from comparison to others, the pressure of looks/behaviors, and from others’ behaviors. These impacts were associated with isolation, unhealthy eating habits, depression, anxiety, insecurity, and loneliness.<sup>319</sup>

245. In its “Social Comparison Exploratory Research” conducted in 2020, Meta acknowledged that body image comparisons are formed in part by its defective features— filters that flood its app with seemingly unattainable looks like flawless skin, made worse by posters “using hashtags like no-filters but actually using filters.”<sup>320</sup> Meta’s researchers found that nearly half of teen girls on Instagram feel like they often or always compare their appearance to others using the app, and more than one-third feel extreme pressure to look perfect on Instagram.<sup>321</sup> In a related survey, Meta found that around the age of 30, the role of Instagram in social comparison begins to diminish.<sup>322</sup>

246. According to research conducted by Meta in 2019, over 60% of teens believe Instagram should help them address the effects of social comparison by recommending positive

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risk of experiencing body dissatisfaction and disordered eating habits.); Scott Griffiths, Stuart Murray, Isabel Krug, & Sian McLean, *The Contribution of Social Media to Body Dissatisfaction, Eating Disorder Symptoms, and Anabolic Steroid Use Among Sexual Minority Men*, 21 *Cyberpsychology Behavior, and Soc. Networking* 149, 149 (Mar. 1, 2018), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5865626/>.

<sup>318</sup> Haugen\_00017069 at Haugen\_00017122.

<sup>319</sup> *Id.* at Haugen\_00017126.

<sup>320</sup> *Teen Girls Body Image and Social Comparison on Instagram – An Exploratory Study in the U.S.*, Wall. St. J. (Sept. 29, 2021), <https://s.wsj.net/public/resources/documents/teen-girls-bodyimage-and-social-comparison-on-instagram.pdf>; Haugen\_00015958 at Haugen\_00015971-Haugen\_00015977.

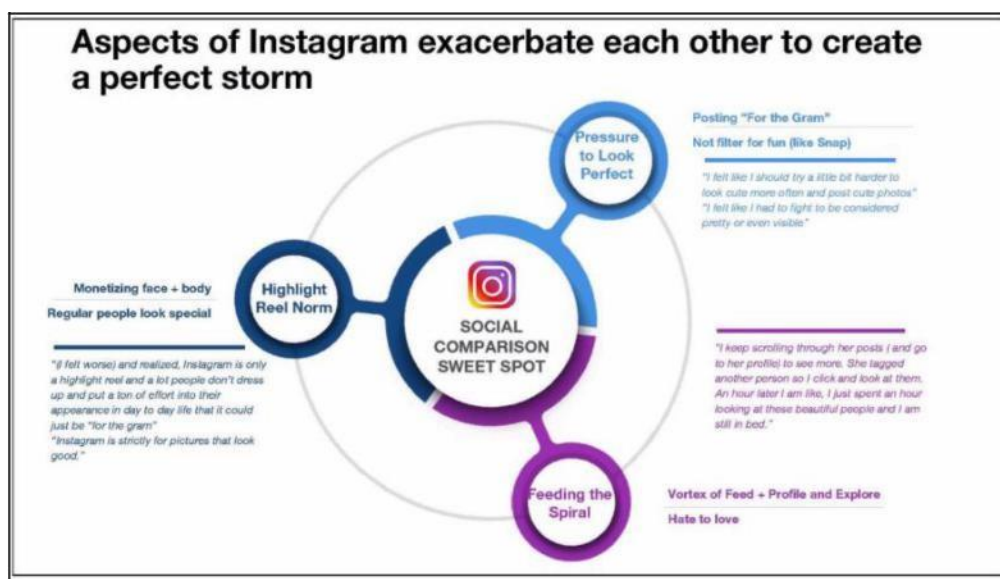
<sup>321</sup> Haugen\_00007080 at Haugen\_00007082.

<sup>322</sup> *Id.* at Haugen\_00007095.



accounts, reprioritizing their feeds to promote healthy accounts, and help them follow a balance of accounts.<sup>323</sup> One in three teens wished Instagram gave them better user controls.<sup>324</sup> Yet a survey conducted two years later revealed that Meta had done little to address its users' concerns. Topics that elicited social comparison still encompassed over one-third of teen girls' feeds. And for every post from a friend that appeared in a teen girl's feed, Instagram's algorithm drove five times as much content from popular accounts.<sup>325</sup>

247. One slide from Meta's study of social comparison offers a particularly succinct summation of how the various defects built into Instagram exacerbate each other, creating a perfect storm.<sup>326</sup> "Posting for the 'Gram'" creates a "pressure to look perfect."<sup>327</sup> The ability of influencers to monetize their face body creates a highlight reel norm. And "feeding the spiral" creates compulsive use.<sup>328</sup> Taken together, these three features—all driven by very specific design features of Instagram—create a "social comparison sweet spot."<sup>329</sup>



<sup>323</sup> Haugen\_00017069 at Haugen\_00017145.

<sup>324</sup> Haugen\_00020135 at Haugen\_00020171.

<sup>325</sup> Haugen\_00002527 at Haugen\_00002527.

<sup>326</sup> *Teen Girls Body Image and Social Comparison on Instagram – An Exploratory Study in the U.S.*, Wall. St. J. (Sept. 29, 2021), <https://s.wsj.net/public/resources/documents/teen-girls-bodyimage-and-social-comparison-on-instagram.pdf>; Haugen\_00015958 at Haugen\_00015991.

<sup>327</sup> *Id.*

<sup>328</sup> *Id.*

<sup>329</sup> *Id.*

248. Finally, Meta understands that the social comparison it knowingly enables through appearance filters creates compulsive behavior among child users, especially when paired with other defects such as likes and algorithmic recommendations. Specifically, Meta knows that social comparison creates a negative feedback loop.<sup>330</sup> Its internal research reveals that, as teens compare themselves to others, their self-doubt grows, which in turn heightens the degree of attention they give these feelings. As these effects compound, teens experience depression and anxiety, making them more vulnerable and susceptible to harmful content.<sup>331</sup> Meta observed that long-term constant self-critique and scrutiny permanently shapes how teens view themselves in all relationships on and offline.<sup>332</sup> Moreover, they found that the incessant social pressure Instagram inflicted on teens led to obsessive control and attention-seeking behavior to obtain social validation.<sup>333</sup> In other words, Instagram’s design features resulted in an insidious cycle of harm where teens believed they could only find reprieve by increased Instagram use.

249. Meta has the technological capabilities to mitigate social comparison harms significantly but actively chooses to ignore leading research (including its own) and its engineers’ recommendations. One internal presentation concluded with several “targeted interventions” for changes to Instagram that could mitigate these harms, such as a recommendation that users take a break during a long use session.<sup>334</sup> In another, computational social researchers and engineers at Meta proposed numerous feasible design changes including: demotions on Explore and Reels using topic and image and video features from an FBLearner model, separating top-account feed from close-friend feed, and not recommending celebrities to follow that post primarily fashion/beauty content as users “can find these accounts on their own, but [Meta] shouldn’t amplify their influence through recommendations.”<sup>335</sup>

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<sup>330</sup> Haugen\_00017069 at Haugen\_00017127.

<sup>331</sup> *Id.* at Haugen\_00017127.

<sup>332</sup> *Id.* at Haugen\_00017130.

<sup>333</sup> *Id.* at Haugen\_00017127.

<sup>334</sup> Haugen\_00019219 at Haugen\_00019272.

<sup>335</sup> Haugen\_00002527 at Haugen\_00002565.

250. Despite its vast knowledge of the harms that Instagram’s defective features were causing to adolescents, in Meta’s 2021 Milestone Tracker, the action item of reducing the negative effects from social comparison through controls had yet to be started.<sup>336</sup> In other words, despite its awareness that the deliberate design of Instagram was drastically damaging teen mental and physical health, Meta ignored the problem, failing to implement its own researchers’ recommendations.

**d. Meta has failed to implement effective age-verification measures to keep children off of Facebook and Instagram.**

251. Meta purports to ban children under the age of 13 from using its apps but, at all relevant times, has lacked any reliable form of age verification to prevent such use.

252. Other online platforms employ substantially more effective and reliable age verification schemes before granting children access. These include but are not limited to connecting new users to parents’ accounts, credit card verification, verification by presentation of identification card (or other government-issued document), or linking a verified undergraduate or professional email, among other methods. Meta chooses not to implement any of these systems, even though they are technologically feasible, used by many companies across the Internet, and could be employed at relatively low cost. Indeed, Meta itself uses an age verification technique for Facebook Dating that it claims can verify ages without identifying users—but does not use the same technology at account startup for Facebook or Instagram.<sup>337</sup> For most of its history, Meta knew that children under the age of 13 were using its apps. And it certainly could have figured this out based on posted photos of elementary school age users. Yet Meta continued to promote and target Facebook and Instagram to children. As long as a new user simply clicked a box confirming that they were at least 13 years old, Meta asked no questions, engaged in zero follow-up, and let the user access the platforms indefinitely. This did not go unnoticed by certain of its employees, who criticized the company’s policy: “if we collected age on IG we could age-gate this content

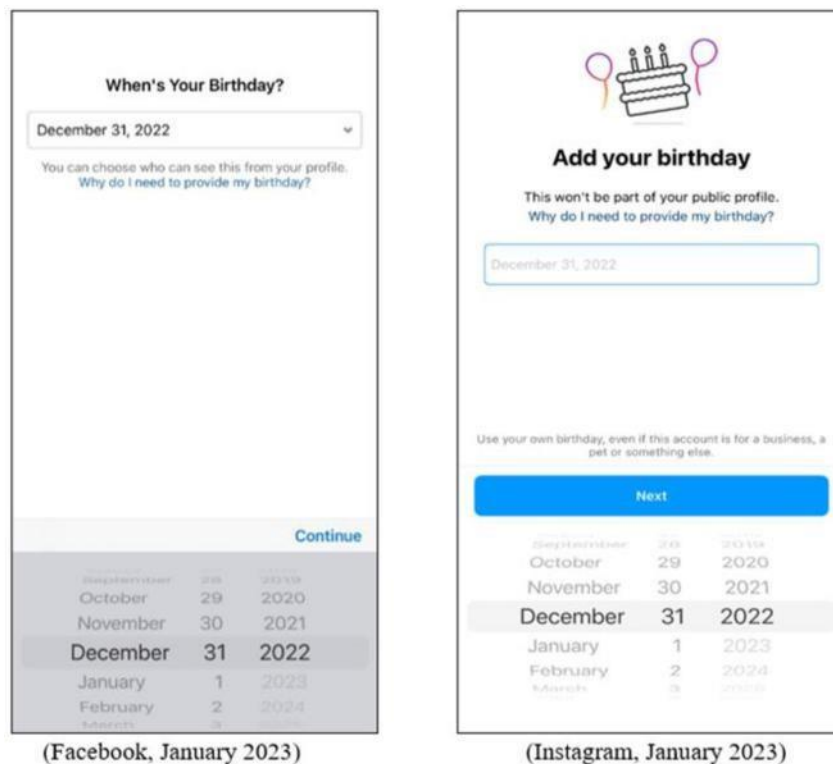
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<sup>336</sup> Haugen\_00025741 at Haugen\_00025763.

<sup>337</sup> Erica Finkle, Meta Director of Data Governance, *Bringing Age Verification to Facebook Dating*, Meta (Dec. 5, 2022), <https://about.fb.com/news/2022/12/facebook-dating-age-verification/>.

[referring to suicide and self-injury (“SSI”) content] . . . and if we used age classifiers we could detect under 13s and kick them off the platform so they wouldn’t have access to content that’s not appropriate for them to find.”<sup>338</sup>

253. The minimal age verification procedure Meta employs is toothless. Meta does not as a default matter require users to verify their ages upon signing up to use Instagram or Facebook. Users are only asked to self-report their birthday:



254. If the user reports a birthday indicating they are less than 13 years old, they are informed that they cannot create an account. However, after acknowledging this message, users can *immediately* reattempt to create an account and input an eligible birthday. When a user enters an eligible birthday, there are no restrictions to creating an account, other than having it linked to a cell phone number or an email address. In other words, Meta routinely allows pre-teens to misrepresent their age as 13 or 40 or any other age—without so much as asking for proof. This is analogous to selling a teenager alcohol who has admitted to being under 21 but then promptly changed his story.

<sup>338</sup> META3047MDL-003-00086015.

255. The upshot is that, in a matter of seconds, and without age verification, identity verification, or parental consent, children of all ages can create a Facebook or Instagram account, and immediately become subject to the apps’ various addictive and harmful features.<sup>339</sup>

256. There can be no serious debate about whether Meta has more effective age verification tools at its disposal. Meta has internal age identification models, such as the “teen\_non\_teen” model or the “dim\_ig\_age\_prediction\_adult\_classifier,” that can estimate a user’s age.<sup>340</sup> Although this tool could be used to identify when a user is under 13 (or, for that matter, if a user is a teenager and should therefore be safeguarded from particularly injurious aspects of Meta’s apps) Meta does not use this safeguard.<sup>341</sup>

257. Perversely, Meta does employ age verification on Instagram—but only when a user self-reports they are *younger* than 13. In that case, Meta provides a user with what amounts to an appeal right: “if you believe we made a mistake, please verify your age by submitting a valid photo ID that clearly shows your face and date of birth.”

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<sup>339</sup> Similarly, the absence of effective age verification measures means that adult users can claim to be children—with obvious dangers to the actual children on Meta’s products.

<sup>340</sup> Haugen\_00003463 at Haugen\_00003463-Haugen\_00003465; *see also* Ibrahim Mousa Al-Zaubi, Assef Jafar, & Kadan Aljoumaa, *Predicting customer’s gender and age depending on mobile phone data*, 6 Journal of Big Data 18 (Feb. 19, 2019), <https://journalofbigdata.springeropen.com/articles/10.1186/s40537-019-0180-9> (discussing generally how a similar age prediction algorithm works).

<sup>341</sup> Haugen\_00003463, at Haugen\_00003463-Haugen\_00003465.

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### Help Us Verify Your Age

You must be at least 13 years old to have an Instagram account. We disabled your account because you are not old enough yet. If you believe we made a mistake, please verify your age by submitting a valid photo ID that clearly shows your face and date of birth.

Full name

Email address  
 Please provide the email address connected to your account.

Instagram username

Date of birth

Your ID  
[Choose File](#) no file selected

Please provide a photo of a [valid ID](#).

Your photo ID must include your face and date of birth so we can verify your age. After you send us a copy of your ID, it'll be encrypted and stored securely. Your ID won't be visible on your profile, to friends or to other people on Instagram and will be deleted 30 days after submission.

Any additional info

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258. That is, instead of asking users to prove they are really *over* 13, Meta asks them if they are really sure they are *under* 13. At best, this reflects a completely upside-down view of Meta's duty of care, using age verification to screen *in* minor users but not to screen them *out*. At worst, Meta's "are you sure you're really under 13" question invites pre-teens to falsify their identification to gain access to Instagram.

259. Similarly, Meta imposes unnecessary barriers to the removal of accounts created by children under 13. Since at least April 2018, Instagram and Facebook both accept reports of

accounts created by children under 13.<sup>342</sup> However, before an Instagram or Facebook account is deleted, Meta requires verification that the child is under the age of 13. For example, Instagram's reporting page states:

if you're reporting a child's account that was made with a false date of birth, and the child's age can be reasonably verified as under 13, we'll delete the account. You will not get confirmation that the account has been deleted, but you should no longer be able to view it on Instagram. Keep in mind that complete and detailed reports (example: providing the username of the account you're reporting) help us take appropriate action. If the reported child's age can't reasonably be verified as under 13, then we may not be able to take action on the account.<sup>343</sup>

Facebook's reporting page contains almost identical language.<sup>344</sup> By choosing to implement age verification only before deleting accounts of users suspected to be children, but not when those accounts are first created, Meta makes it more difficult to prove a user is under age 13 than it does for a minor to pretend to be over 13.

260. It is unclear how long on average Meta takes to delete a reported account, when it does so at all. Meta has ignored some parents' attempts to report and deactivate accounts of children under 13 years old.

261. Zuckerberg has stated that he believes children under 13 should be allowed on Facebook,<sup>345</sup> so Meta's lax approach to age verification is no surprise.

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<sup>342</sup> *Report an Underage User on Instagram*, Instagram, <https://help.instagram.com/contact/723586364339719?fbclid=IwAR3E5rZo8zvp9Uw3giRoQRMy5qFmIGpy-NOLLtpctHOWkalXtfJ1ft9O09Q>; *Report an Underage Child*, Facebook, <https://www.facebook.com/help/contact/209046679279097>.

<sup>343</sup> *Report an Underage User on Instagram*, Instagram, <https://help.instagram.com/contact/723586364339719?fbclid=IwAR3E5rZo8zvp9Uw3giRoQRMy5qFmIGpy-NOLLtpctHOWkalXtfJ1ft9O09Q>.

<sup>344</sup> *Reporting an Underage Child*, Facebook, <https://www.facebook.com/help/contact/209046679279097>.

<sup>345</sup> Kashmir Hill, *Mark Zuckerberg Is Wrong About Kids Under 13 Not Being Allowed on Facebook* (May 20, 2011), <https://www.forbes.com/sites/kashmirhill/2011/05/20/mark-zuckerberg-is-wrong-about-kids-under-13-not-being-allowed-on-facebook/?sh=2ea85e825506>.



262. Meta’s approach to underage users of its platforms have consistently been one of feigned ignorance. On October 10, 2021, Senator Marsha Blackburn reported that a young celebrity told Instagram CEO Adam Mosseri that she had been active on Instagram since she was eight. Mosseri replied that he “didn’t want to know that.”<sup>346</sup>

263. But Meta *does* know that its age-verification protocols are inadequate to keep minors off Facebook and Instagram. According to a May 2011 ABC News report, “about 7.5 million [Facebook] users in the U.S. are under the age of 13, and about 5 million are under the age of 10.”<sup>347</sup> Meta knows through retrospective cohort analyses that “up to 10 to 15% of even 10-year-olds in a given cohort may be on Facebook or Instagram.”<sup>348</sup>

264. Meta knows that its chosen method of registration does not adequately protect minor users from reporting inaccurate and implausible age information. As one engineer cautioned while analyzing the age of Facebook users, “Don’t believe anything in the stated age graph for under 30. They are all mixed up ... We have way more people who say they are born in the early 90’s than exist in the population.”<sup>349</sup>

265. Meta’s internal studies confirm its knowledge that kids, tweens, and teens use its apps. In one study, Meta researched children as young as seven and found that in the fifth grade, “social media becomes a part of their digital diet.”<sup>350</sup> Moreover, they identified that 24% of

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<sup>346</sup> *Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before Subcomm. On Consumer Protection, Product Safety, and Data Security* (Oct. 5, 2021), available at <https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower>.

<sup>347</sup> Ki Mae Heussner, *Underage Facebook Members: 7.5 Million Users Under Age 13*, ABC (May 9, 2011), <https://abcnews.go.com/Technology/underage-facebook-members-75-million-users-age-13/story?id=13565619>.

<sup>348</sup> *Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before Subcomm. On Consumer Protection, Product Safety, and Data Security* (Oct. 5, 2021), available at <https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower>.

<sup>349</sup> Haugen\_00012303 at Haugen\_00012314.

<sup>350</sup> Haugen\_00023849 at Haugen\_00023910.

children aged 7-9 and 38% of tweens aged 10-12 have at least one social media account,<sup>351</sup> and specifically stated that Instagram’s perceived user base included middle schoolers.<sup>352</sup>

266. Another internal post reveals Meta’s knowledge of the widespread use of Instagram by preteens, as well as its targeting of children under the age of 13. In a study from around January 2021, titled “The Role of the Teen in Shaping a Household’s Experience of Instagram,” Meta expressed a desire to utilize teenagers as the doorway into capturing an entire household of users, including children under age 13.<sup>353</sup> The post explains that teens can be used to teach their preteen siblings how to join while underage and to help them develop a habit of using and posting indiscriminately.<sup>354</sup> The article expresses concern that some teens may teach their preteen siblings to post less and recommends that Meta combat this by changing perceptions among teens, so that they will instruct their preteen siblings to use Instagram more spontaneously.<sup>355</sup> Key discussion points from this document include:

Teens strongly influenced preteens’ understanding of what and how frequently to share on IG, even discouraging them from sharing . . . . We need to understand IG myths circulating among teens to inform comms and shift the perception of sharing on IG. . . .

Historically, teens have been a key focus for IG. Acquiring and maintaining them continues to be a priority, reflected by investment in new features like Reels. Additionally, capturing the teen user cohort on IG is critical as we think about Instagram’s role within the broader family of apps. . . . [Teens] are typically the first in a household to join. In many cases they’re also critical to the onboarding process of parents and preteens alike. . . .

Older teens were IG catalysts for preteens. Most preteens became curious about and wanted an IG account because of their older sibling. In some cases, preteens even relied on their older sibling to create and set up their account, seeking their guidance on a username, profile, and accounts to [F]ollow. . . . If we’re looking to acquire (and retain) new users we need to recognize a teen’s influence within the household to help do so, and the potential ripple effect. . . .<sup>356</sup>

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<sup>351</sup> Haugen\_00023849 at Haugen\_00023866.

<sup>352</sup> *Id.* at Haugen\_00023879.

<sup>353</sup> Haugen\_00016728 at Haugen\_00016728.

<sup>354</sup> *Id.* at Haugen\_00016728-Haugen\_00016732.

<sup>355</sup> *Id.* at Haugen\_00016736-Haugen\_00016740.

<sup>356</sup> *Id.* at Haugen\_00016728- Haugen\_00016734.

267. Meta has not used its concerning knowledge about preteen use and engagement to comply with COPPA. Far to the contrary, it has leveraged its research to manipulate households and target preteens through their siblings.

**e. Facebook’s and Instagram’s parental controls are defective.**

268. Facebook and Instagram lack adequate parental controls, which hinders parents’ ability to monitor and protect their children from harm.

269. Despite its obligations under COPPA, Meta does not require “verifiable parental consent” for minors to use Facebook or Instagram. Meta has chosen to avoid its obligations by *purporting* to ban children younger than 13, despite knowing that such children continue to access and use its apps due to its inadequate age verification methods.

270. While COPPA requires parental consent only for users under the age of 13, a reasonable company that knows or should have known its platforms are harmful to adolescents would require parental consent for *any* minor to use them. But Meta’s lack of parental consent requirement for any underage users robs parents of an important way to protect their children from the harms caused by Instagram and Facebook.

271. Meta’s lackadaisical approach to complying with COPPA is palpable in its internal documents. To Meta, “the COPPA line is simple: we treat 13+ like other users and ask younger people not to use our products.”<sup>357</sup>

272. Instagram and Facebook largely lack parental controls, despite their ready availability, affordability, and ease of implementation. For example, Meta has chosen not to: (a) require children’s accounts on Facebook and Instagram to be linked to their parents’, as it does with another one of its apps, Messenger Kids;<sup>358</sup> (b) send reports of a child’s activity to parents; (c) allow parents to implement maximum daily usage limitations or to prohibit use during certain hours (school, sleep

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<sup>357</sup> Haugen\_00017238 at Haugen\_00017240.

<sup>358</sup> Loren Chang, *Introducing Messenger Kids, a New App for Families to Connect*, Meta (Dec. 4, 2017), <https://about.fb.com/news/2017/12/introducing-messenger-kids-a-new-app-for-families-to-connect/>.

hours, etc.); (d) notify parents about interactions with accounts associated with adults; (e) notify parents when CSAM is found on a minor's account; or (f) require parental approval before a minor can follow new accounts.

273. Controls like these would enable parents to track the frequency, time of day, and duration of their child's use, identify and address problems arising from such use, and better exercise their rights and responsibilities as parents. It is reasonable for parents to expect that social media companies that actively promote their platforms to minors will undertake reasonable efforts to notify parents when their child's use becomes excessive, occurs during sleep time, or exposes the child to harmful content. Meta could feasibly design Instagram and Facebook to do so at negligible cost.

274. Meta creates a foreseeable risk to young users through its defective platforms and then attempts to shift the burden of protection from those platforms onto parents. As troublingly, Meta intentionally designs Facebook and Instagram so that children can easily evade their parents' supervision. Instagram and Facebook allow children to create a limitless number of anonymous accounts without parental approval or knowledge, and also allows kids to block their parent's profile.<sup>359</sup> On Instagram, children can post stories to "Close Friends Only" (i.e., to a select group of followers), excluding their parents. On Facebook, children can place their parents on a "restricted list" of people who are unable to view their stories.

275. Finally, Meta has failed to develop effective reporting tools to deal with abuse directed at children through Instagram and Facebook. Meta does not have a phone number that a parent or child can call to report such abuse in real time. Its online reporting mechanisms lack an immediate response mechanism, regardless of the seriousness of the harm at issue. Some users

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<sup>359</sup> See Caity Weaver and Danya Issawi, *'Finsta,' Explained*, N.Y. Times (Sept. 30, 2021), <https://www.nytimes.com/2021/09/30/style/finsta-instagram-accounts-senate.html> ("It is neither an official designation nor a type of account offered by Facebook. Rather, it is a term many users ascribe to secondary accounts they create for themselves on Instagram, where their identities — and, often, the content of their posts — are obscured to all but a small, carefully chosen group of followers.").

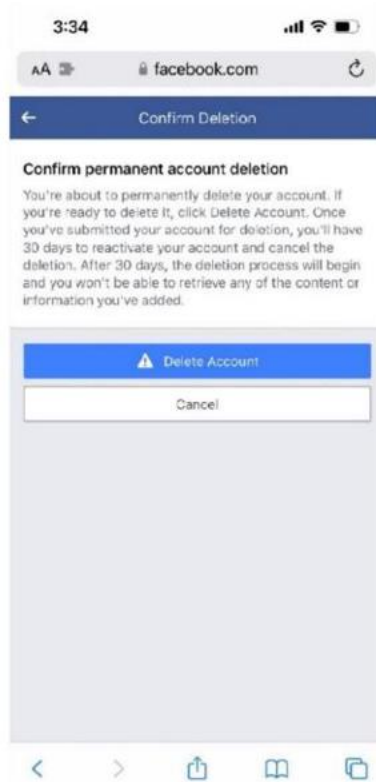
have found that Meta declined to respond to reports filed through its online reporting tool, citing technical issues.

**f. Facebook's and Instagram's defective features include impediments to discontinuing use.**

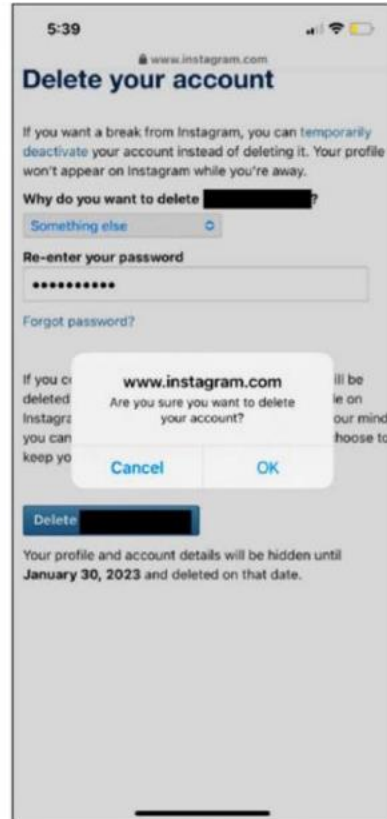
276. Meta has intentionally and defectively designed its platforms so that adolescent users face significant navigational obstacles and hurdles when trying to delete or deactivate their accounts, in contrast to the ease with which users can create those accounts.

277. Currently, to delete or deactivate an Instagram or Facebook account, a user must locate and tap on approximately seven different buttons (through seven different pages and popups) from the main feed. Some young users give up on their attempts to quit because it's too difficult to navigate through the interface to completion.

278. Even if a user successfully navigates these seven pages, Meta still won't immediately delete their account. Instead, Meta preserves the account for 30 more days. If at any time during those 30 days a user's addictive craving becomes overwhelming and they access the account again, the deletion process starts over. The user must go through all the above steps again, including the 30-day waiting period, if they again wish to delete their account.



(Facebook Final Deletion Screen  
February 2023)



(Instagram Final Deletion Screen,  
January 2023)(account name  
redacted)

279. Moreover, the deletion process includes what Meta readily acknowledges are “aggressive” attempts to dissuade users from deleting their accounts.<sup>360</sup> Before a user can delete their Facebook account, Meta “lists some of your friends to remind you that they will no longer be able to contact you through the site and more importantly, [requires] the user to choose a reason for why they’re leaving.”<sup>361</sup> Meta also requires users attempting to leave Instagram to select a reason why they are leaving.

280. As an additional barrier to deletion, Meta urges users of both platforms to deactivate, rather than delete, their accounts. For example, Instagram users who choose to delete their accounts are immediately shown a screen with their profile picture and asked: “Deactivate your account instead of deleting?” The option to deactivate is conspicuously highlighted. Similarly, Facebook

<sup>360</sup> Haugen\_00016893 at Haugen\_0001689398.

<sup>361</sup> Haugen\_00016893 at Haugen\_0001689398.

displays a screen that automatically selects the option of deactivating rather than deleting a user account.

281. Meta’s aggressive efforts to prevent users from discontinuing their use of Facebook and Instagram is particularly problematic because unsuccessful efforts to discontinue use are a hallmark of addiction, incorporated as the sixth criterion in the *Bergen Social Media Addiction Scale*, discussed above.

**4. Meta has concealed from users, the public, and Congress the harmful effects that Instagram’s and Facebook’s design have on children.**

282. Meta has engaged in a years-long pattern of concealing critical information about the safety of Instagram and Facebook from the public. While Meta touted the safety of its platforms, it failed to disclose information it knew concerning the significant risks associated with its platforms, even though it knew that the public lacked access to this information. In one internal document from February 2018, employees at Meta communicated internally about how best to “refin[e] counter-messaging around the addiction narrative that’s been propagating.” This effort to conduct “message testing around addiction PR responses” included the ideas that “[t]he whole dopamine thing is completely made up and based on no research,” “[t]here’s no agreement on what is meant by addiction,” and (contradictorily) “[w]e’re taking it seriously, doing research, [and] launching new tools to help people.”<sup>362</sup>

283. Meta knew that none of this was true. For instance, in the summer of 2019, Zuckerberg met with a psychologist and leading expert on the mental health effects of social media on young people. This leading expert countered Zuckerberg’s contention that harms from social media are trivial and explained how, to the contrary, Instagram and other platforms have been a major contributor to the spike in young girls’ mental health problems since 2012. The psychologist addressed his research “on the dramatic rise in rates of teenage anxiety, depression, and self-harm” and explained how the research on social media’s role “points heavily to a connection, not just

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<sup>362</sup> META3047MDL-003-00082165.



from correlational studies but from true experiments, which strongly indicate causation, not just correlation.”<sup>363</sup>

284. Instead of “taking [this] seriously” and “launching new tools” to protect kids,<sup>364</sup> Meta did the opposite. By late 2019, Meta’s “mental health team stopped doing things,” “it was defunded” and “completely stopped.”<sup>365</sup> And, as noted, Meta allowed safety tools it knew were broken to be held out as fixes. All the while, Meta ignored cries from their well-being researchers to aggressively confront its youth safety problem: “there’s so much more we could have done here ... [but] there was the explicit decision last half not to fund this anymore.”<sup>366</sup>

285. Despite knowing better, Meta’s high-ranking executives then began pushing intentionally misleading talking points to the public. Instead of informing the public about Meta’s internal research demonstrating Instagram’s and Facebook’s negative impacts on the health and well-being of the nation’s youth, Meta repeatedly omitted key facts and misrepresented its platforms in service of an overall message touting the safety of its platforms for children.

286. Because of Meta’s concealment, the public was left in the dark and reasonably relied on Meta’s assurances. That included many students and their parents within the School District. Had Meta disclosed the truth about its platforms harms to those individuals—and harms to the School District—would have been avoided and mitigated.

287. In the year leading up to Meta’s acquisition of Instagram, Meta publicly acknowledged its duty to children and worked to create false expectations about its platforms’ safety. For example,

- a. Zuckerberg (3/25/2011): “So, we’re really focused on, on safety, especially children’s safety. So we’re having folks under the age of 18, um we, we just take a lot of extra precautions for it, to make sure that it’s just a safe environment for them um, to use this service that you know, the default for, for people sharing things isn’t that they’re

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<sup>363</sup> META3047MDL-003-00089174 at META3047MDL-003-00089176.

<sup>364</sup> META3047MDL-003-00082165.

<sup>365</sup> META3047MDL-003-00011697 at META3047MDL-003-00011698.

<sup>366</sup> META3047MDL-003-00103260.

sharing with everyone but that they're sharing with a smaller community ... But I think, I think that's a lot of it. We really try to build a safe environment. Um, and um, that's gonna be the key long term."<sup>367</sup>

- b. Zuckerberg (3/25/2011): "Right, and they, they feel like Facebook is this really secure place and that it's a hundred percent safe, and um, we're always thinking about little and big things like that that we can do to keep it safe for, for the people who use our service."<sup>368</sup> Zuckerberg (5/25/2011): "I mean, we do not allow people under the age of 13 to sign up and I think if we ever were, we would need to try to figure out a lot of ways to make sure that they were safe, right, because that's just extremely important and that's just not the top of the list in terms of things for us to figure out right now."<sup>369</sup>

288. Following Meta's acquisition of Instagram, high-ranking executives continued to make public pronouncements about the safety of Meta's platforms, including but not limited to the following statements:

- a. Zuckerberg (12/1/2015): "We will do our part to make this [better world] happen, not only because we love you, but also because we have a moral responsibility to all children in the next generation."<sup>370</sup>
- b. Zuckerberg (4/11/2018): "Congressman, we have a number of measures in place to protect minors specifically. We make it so that adults can't contact minors who they - they aren't already friends with. We make it so that certain content that may be inappropriate for minors, we don't show."<sup>371</sup>

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<sup>367</sup> Mark Zuckerberg at *BYU with Senator Orrin Hatch*, YouTube, March 25, 2011, <https://www.youtube.com/watch?v=zRsbWOmmvNo>.

<sup>368</sup> *Id.*

<sup>369</sup> Maurice Levy, *Conversation with Mark Zuckerberg at E-G8 Forum*, YouTube, May 25, 2022, <https://www.youtube.com/watch?v=Gy0bq9FAJRs>.

<sup>370</sup> Mark Zuckerberg, Facebook (Dec. 1, 2015), <https://www.facebook.com/zuck/posts/10153375081581634>.

<sup>371</sup> *Transcript of Zuckerberg's appearance before House committee*, Wash. Post (April 11, 2018), <https://www.washingtonpost.com/news/the-switch/wp/2018/04/11/transcript-of-zuckerbergs-appearance-before-house-committee/?noredirect=on>.

- c. Zuckerberg (4/10/2018): when asked by members of the U.S. Senate Committee on Commerce, Science, and Transportation whether his companies “[h]ire consulting firms to help them figure out how to get more dopamine feedback loops so that people don’t want to leave the platform”: “No . . . that’s not how we talk about this or how we set up our product teams. We want our products to be valuable to people, and if they’re valuable, then people choose to use them.”<sup>372</sup>
- d. Zuckerberg (7/12/2018): “There are really two core principles at play here. There’s giving people a voice, so that people can express their opinions. Then, there’s keeping the community safe, which I think is really important.”<sup>373</sup>
- e. Zuckerberg (7/25/2018): “[W]e will continue to invest heavily in security and privacy because we have a responsibility to keep people safe. But as I’ve said on past calls, we’re investing so much in security that it will significantly impact our profitability.”<sup>374</sup>
- f. Zuckerberg (8/21/2018): “One of the most important responsibilities we have as a company is to keep people safe and stop anyone from abusing our service.”<sup>375</sup>
- g. Zuckerberg (9/7/2018): “What I’ve learned so far is that when you build services that are used by billions of people across countries and cultures, you will see all of the good

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<sup>372</sup> *Facebook, Social Media Privacy, and the Use and Abuse of Data: Hearing Before the S. Comm. on Commerce, Sci., and Transp. and H. Comm’s on the Judiciary and Commerce, Sci., and Transp., 115<sup>th</sup> Cong.* (Apr. 10, 2018), available at <https://www.commerce.senate.gov/2018/4/facebook-social-media-privacy-and-the-use-and-abuse-of-data>.

<sup>373</sup> Kara Swisher, *Zuckerberg: The Record Interview*, Vox (July 12, 2018), <https://www.vox.com/2018/7/18/17575156/mark-zuckerberg-interview-facebook-recode-kara-swisher>.

<sup>374</sup> *Facebook, Inc., Second Quarter 2018 Results Conference Call* (July 25, 2018), [https://s21.q4cdn.com/399680738/files/doc\\_financials/2018/Q2/Q218-earnings-call-transcript.pdf](https://s21.q4cdn.com/399680738/files/doc_financials/2018/Q2/Q218-earnings-call-transcript.pdf).

<sup>375</sup> Mark Zuckerberg, Facebook (Aug. 21, 2018), [https://www.facebook.com/zuck/posts/10105188590724391?\\_tn\\_ =K-R](https://www.facebook.com/zuck/posts/10105188590724391?_tn_ =K-R).



- m. Sheryl Sandberg (1/29/2020): “[We] have to keep people safe and give them control over their experience on our apps. And we are.”<sup>382</sup>
- n. Sheryl Sandberg (10/29/2020): “While we continue to invest in helping businesses, we are equally focused on keeping our platform safe.”<sup>383</sup>
- o. Meta (12/23/2020), when asked by the Senate Committee on the Judiciary whether it could “determine whether increased use of their platform among teenage girls has any correlation with increased signs of depression [or anxiety]”: “No.” And, when asked what research Meta had conducted internally on the mental health impacts of social media use: “[t]he effects of social media are still being studied.”<sup>384</sup>
- p. Zuckerberg (3/25/21), when asked by members of the U.S. House of Representatives Committee on Energy and Commerce, “Do you believe that your platform harms children?”: “I don’t believe so. This is something that we study and we care a lot about; designing products that improve peoples’ well-being is very important to us. And what our products do is help people stay connected to people they care about, which I think is one of the most fundamental and important human things that we do, whether that’s for teens or for people who are older than that.”<sup>385</sup>
- q. David Wehner, Chief Financial Officer of Meta (4/28/2021): “I mean, the only thing I’d add . . . is that, I think more than anyone else in the industry, we invest on the safety and security side to sort of keep bad content off the site before it gets ranked and put

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<sup>382</sup> Meta Investor Relations, *Earnings Call Transcript*, Meta (Jan. 29, 2020), <https://investor.fb.com/investor-events/default.aspx>.

<sup>383</sup> Meta Investor Relations, *Earnings Call Transcript*, Meta (Oct. 29, 2020), <https://investor.fb.com/investor-events/default.aspx>.

<sup>384</sup> *Facebook, Inc. Responses to Questions for the Record from the Comm. on the Judiciary November 17, 2020 Hearing: Breaking the News: Censorship, Suppression, and the 2020 Election*, at 124-125 (December 23, 2020), available at <https://www.judiciary.senate.gov/imo/media/doc/Zuckerberg%20Responses%20to%20QFRs.pdf>

<sup>385</sup> *Disinformation Nation: Social Media’s Role in Promoting Extremism and Misinformation Hearing Before H. Energy and Commerce Subcomm. on Communications and Technology* (March 25, 2021), available at <https://www.congress.gov/117/meeting/house/111407/documents/HHRG-117-IF16-Transcript-20210325.pdf>.

into what people see. So we've got 35,000 -- over 35,000 people on the safety and security side. We've got the most robust set of content policies out there. We do a quarterly call, public call around our content review process and procedures. So I think that on the front, before it even gets into the algorithm, I think we really do more than anyone else in the industry on the safety and security front to prevent things like misinformation and a bad content going into the system in the first place.”<sup>386</sup>

- r. Adam Mosseri (5/2021): in statement to reporters, dismissing concerns around Instagram's negative impact on teens as “quite small.”<sup>387</sup>

289. On each of the above occasions, and on many others, Meta touted the safety of its platforms; it could have but failed to disclose information it knew concerning the significant risks associated with its platforms, even though it knew that the public lacked access to this information. For instance, in a December 2019 memo, Meta's Chief Technology Officer remarked that the media has “limited information to work with” about the company and that this limitation is by Meta's “own design.”<sup>388</sup>

290. Meta's pattern of intentional concealment came to a head in August 2021, just weeks before Frances Haugen dropped her bombshell revelations on the public. On August 4, 2021, Senators Marsha Blackburn and Richard Blumenthal wrote to Mark Zuckerberg. The Senators' letter observed that “[a]n expanding volume of scientific research shows that social media platforms can have a profoundly harmful impact on young audiences” and noted “grave concerns about [Meta's] apparent effort to ensnare children into social media platforms at earlier

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<sup>386</sup> Meta Investor Relations, *Earnings Call Transcript*, Meta (April 28, 2021), <https://investor.fb.com/investor-events/event-details/2021/Facebook-Q1-2021-Earnings-/default.aspx>.

<sup>387</sup> Taylor Hatmaker, *Facebook Knows Instagram Harms Teens. Now its Plan to Open the App to Kids Looks Worse than Ever*, TechCrunch (Sept. 16, 2021), available at <https://techcrunch.com/2021/09/16/facebook-instagram-for-kids-mosseri-wsj-teen-girls/>.

<sup>388</sup> Haugen\_00007350 (Dec. 30, 2019 memo by Andrew Bosworth regarding “Thoughts for 2020”).

and earlier ages.”<sup>389</sup> The letter concluded by asking Zuckerberg six “pretty straightforward questions about how the company works and safeguards children and teens on Instagram.”<sup>390</sup>

291. In its August 17, 2021 written response to Senators Blackburn and Blumenthal, Meta omitted any reference to the internal research it had conducted demonstrating the negative impact Instagram can have on kids’ mental health.<sup>391</sup>

292. The Senators’ letter asked whether Meta had ever developed products or features “that it had reason to believe could have a negative effect on children’s and teens’ mental health or well-being.”<sup>392</sup> Meta responded by claiming it had “built many special protections for teens.”<sup>393</sup> But it failed to mention, for example, that it employed “growth hackers” who internally advised, “we can be very aggressive with our notifications to create a habit.”<sup>394</sup>

293. The Senators’ letter also asked if Meta’s research had “ever found that its platforms and products can have a negative effect on children’s and teens’ mental health or well-being.”<sup>395</sup> Meta responded that the matter was “still being studied,”<sup>396</sup> that it was challenging to conduct such

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<sup>389</sup> Letter from Richard Blumenthal, U.S. Senator, to Mark Zuckerberg, Chief Executive Officer of Facebook (Aug. 4, 2021), *available at* <https://www.blumenthal.senate.gov/imo/media/doc/8.4.21%20-%20Facebook%20-%20Mental%20Health%20and%20Kids%20Letter.pdf>.

<sup>390</sup> *Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before Subcomm. On Consumer Protection, Product Safety, and Data Security* (Oct. 5, 2021), *available at* <https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower>. *See also*, Letter from Richard Blumenthal, U.S. Senator, to Mark Zuckerberg, Chief Executive Officer of Facebook (Aug. 4, 2021), *available at* <https://www.blumenthal.senate.gov/imo/media/doc/8.4.21%20-%20Facebook%20-%20Mental%20Health%20and%20Kids%20Letter.pdf>.

<sup>391</sup> Letter from Facebook, Inc. to Richard Blumenthal, U.S. Senator, and Marsha Blackburn, U.S. Senator (Aug. 17, 2021), <https://www.blumenthal.senate.gov/imo/media/doc/817.21facebookresponseletter.pdf>.

<sup>392</sup> *Id.* at 4.

<sup>393</sup> *Id.* at 4.

<sup>394</sup> Haugen\_00016893 at Haugen\_00016914 (Aug. 3, 2017 memo entitled “Have we made people addicted to Facebook?”).

<sup>395</sup> Letter from Facebook, Inc. to Richard Blumenthal, U.S. Senator, and Marsha Blackburn, U.S. Senator 2 (Aug. 17, 2021), <https://www.blumenthal.senate.gov/imo/media/doc/817.21facebookresponseletter.pdf>.

<sup>396</sup> *Id.* at 2.



research,<sup>397</sup> and that the company was “not aware of a consensus among studies or experts about how much screen time is ‘too much.’”<sup>398</sup> While Meta reiterated its vague and already public position that “passive” use of social media can correlate with “negative outcomes,”<sup>399</sup> it failed to disclose any more specific findings.<sup>400</sup> Meta should have, but intentionally did not, respond to the Senators’ question by disclosing its detailed research regarding addiction to its apps, which the company terms problematic usage;<sup>401</sup> its assessment that “[t]he best external research indicates that Facebook’s impact on people’s well-being is negative”;<sup>402</sup> its identification of “Problematic Use,” loneliness, and social comparison as the three drivers of this negative impact;<sup>403</sup> its finding that up to 25% of people on Facebook experience so-called problematic use;<sup>404</sup> its data showing that “high time spent users do tend to be disproportionately younger users”;<sup>405</sup> its conclusion that so-called problematic use causes profound harms, including loss of productivity, sleep disruption,

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<sup>397</sup> Letter from Facebook, Inc. to Richard Blumenthal, U.S. Senator, and Marsha Blackburn, U.S. Senator 3 (Aug. 17, 2021),

<https://www.blumenthal.senate.gov/imo/media/doc/817.21facebookresponseletter.pdf>.

<sup>398</sup> *Id.*

<sup>399</sup> *Id.*; see also Meta Investor Relations, Earnings Call Transcript, Meta (April 25, 2018),

[https://s21.q4cdn.com/399680738/files/doc\\_financials/2018/Q1/Q1-18-Earnings-calltranscript.pdf](https://s21.q4cdn.com/399680738/files/doc_financials/2018/Q1/Q1-18-Earnings-calltranscript.pdf).

<sup>400</sup> Letter from Facebook, Inc. to Richard Blumenthal, U.S. Senator, and Marsha Blackburn, U.S. Senator 6 (Aug. 17, 2021),

<https://www.blumenthal.senate.gov/imo/media/doc/817.21facebookresponseletter.pdf>.

<sup>401</sup> Haugen\_00016373 at Haugen\_00016379 (Mar. 9, 2020 internal presentation and discussion about problematic use with a slide stating that problematic use “is sometimes referred to as ‘social media addiction’ externally”); Haugen\_00016373 at Haugen\_00016373 (Mar. 9, 2020 internal presentation and discussion regarding problematic use in which a Meta employee shared a post stating: “In Q4 2019, our Well-being Product Team conducted global qualitative research to better understand ‘problematic’ use (sometimes called ‘social media addiction’ externally”); Haugen\_00005458 at Haugen\_00005473 (Nov. 5, 2019 report by Meta employee regarding “Hard Life Moments – Mental health deep dive”); Haugen\_00007055 at Haugen\_00007055 (May 6, 2019 memo by Meta employee regarding “Problematic use / time-spent papers at CHI”).

<sup>402</sup> Haugen\_00016373 at Haugen\_00016381 (Mar. 9, 2020 internal presentation and discussion about problematic use).

<sup>403</sup> *Id.* at Haugen\_00016381.

<sup>404</sup> Haugen\_00016373 at Haugen\_00016383.

<sup>405</sup> Haugen\_00017177 at Haugen\_00017181 (Oct. 30, 2018 report by Meta employee regarding “How Behavior on Instagram Varies with Overall Time Spent”); Haugen\_00005458 at Haugen\_00005750-Haugen\_00005751 (Sept. 18, 2019 presentation containing slides about brain maturation).

relationship impacts, and safety risks;<sup>406</sup> its identification of multiple Meta features that act as triggers for so-called problematic use;<sup>407</sup> its knowledge that teens who feel addicted to a Meta app “know that what they’re seeing is bad for their mental health but feel unable to stop themselves”;<sup>408</sup> its studies regarding body image and social comparison;<sup>409</sup> <sup>410</sup> its knowledge that Instagram makes body image issues worse “for one in three teen girls”;<sup>411</sup> its analysis showing that topics eliciting appearance comparison comprise one third of what teen girls see on Instagram;<sup>412</sup> its research concluding that negative social comparison on Instagram gets worse for users over time;<sup>413</sup> its awareness that teens report Instagram as a source of increased anxiety and depression;<sup>414</sup> its finding that Instagram has a “consistent bias in favor of harmful content”;<sup>415</sup> its knowledge that Meta’s recommendation algorithms “create an echo chamber” of suicide and self-harm content;<sup>416</sup> its researchers’ conclusion that teens “[h]ave an addict’s narrative about their use” of Instagram;<sup>417</sup> and its survey finding that “[o]ver one third of teens felt they have only a little control of nor

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<sup>406</sup> Haugen\_00016373 at Haugen\_00016414 (Mar. 9, 2020 presentation stating “All problematic users were experiencing multiple life impacts”).

<sup>407</sup> *Id.* at Haugen\_00016410 (“We heard about 10+ triggers contributing to PU habits”).

<sup>408</sup> Haugen\_00017069 at Haugen\_00017171 (Oct. 10, 2019 report by Meta employee and discussion about teens’ mental health).

<sup>409</sup> Haugen\_00005458 at Haugen\_00005484 (Sept. 18, 2019 presentation regarding “Mental Health Findings”).

<sup>410</sup> Haugen\_00000797 (Nov. 16, 2018 report regarding “IG Social Comparison Research Findings”).

<sup>411</sup> Haugen\_00005458 at Haugen\_00005500 (Sept. 18, 2019 presentation containing a slide stating “But, We Make Body Image Issues Worse for 1 in 3 Teen Girls”).

<sup>412</sup> Haugen\_00002527 (Mar. 9, 2021 report regarding “How the topics people see are linked to appearance comparison on IG”).

<sup>413</sup> Haugen\_00000797 at Haugen\_00000875 (Nov. 16, 2018 report containing a page displaying data about negative social comparison over time).

<sup>414</sup> Haugen\_00017069 at Haugen\_00017121 (Oct. 10, 2019 presentation containing a slide regarding “Teens blame Instagram for increases in the rates of anxiety and depression among teens”).

<sup>415</sup> Haugen\_00003739 (Undated report regarding “Is Instagram Reels Favoring badness?”).

<sup>416</sup> Haugen\_00005378 at Haugen\_00005379 (Dec. 2, 2020 report regarding “Tackle CommunityBased Harm in Dangerous Content”).

<sup>417</sup> *Protecting Kids Online: Facebook, Instagram, and Mental Health Harms Hearing before Subcomm. On Consumer Protection Product Safety, and Data Security* (Sept. 30, 2021), available at <https://www.commerce.senate.gov/2021/9/protecting-kids-online-facebook-instagram-and-mental-health-harms>.

control at all over how Instagram makes them feel”<sup>418</sup>—in addition to the other findings described in this Complaint.

294. Meta’s years-long concealment of its research was revealed just weeks later, when Frances Haugen released internal Meta studies, along with a trove of other internal Meta documents, to the *Wall Street Journal*. Even these disclosures did not reveal the full scope and extent of Meta’s misrepresentations, discussed elsewhere in this complaint.

295. On September 21, 2021, Senator Blumenthal confronted a Meta representative about the conspicuous omissions in Meta’s response to his letter:

Last month, on August 4, Senator Blackburn and I wrote to Mark Zuckerberg and asked him specifically about this issue. We asked, and I’m quoting, “Has Facebook’s research ever found that its platforms and products can have a negative effect on children’s and teens’ mental health or well-being such as increased suicidal thoughts, heightened anxiety, unhealthy usage patterns, negative self-image, or other indications of lower well-being?”

It wasn’t a trick question. It preceded the reports in the Journal. We had no idea about the whistleblower documents that were ultimately revealed.

Facebook dodged the question. “We are not aware of a consensus among studies or experts about how much screen time is too much.” We are not aware. Well, we all know now that representation was simply untrue.<sup>419</sup>

296. Senator Blumenthal went on to ask the witness, Facebook’s Vice President of Privacy & Public Policy, “why did Facebook misrepresent its research on mental health and teens when it responded to me and Senator Blackburn?” After disputing the characterization, the witness responded,

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<sup>418</sup> *Protecting Kids Online: Facebook, Instagram, and Mental Health Harms Hearing before Subcomm. On Consumer Protection Product Safety, and Data Security* (Sept. 30, 2021), available at <https://www.commerce.senate.gov/2021/9/protecting-kids-online-facebook-instagram-and-mental-health-harms>.

<sup>419</sup> Sen. Richard Blumenthal, *Blumenthal Demands Facebook Appear at Next Week’s Consumer Protection Subcomm. Hearing to Explain Coverup of its Platforms’ Negative Impact on Teens and Children* (Sept. 21, 2021), available at <https://www.blumenthal.senate.gov/newsroom/press/release/blumenthal-demands-facebook-appear-at-next-weeks-consumer-protection-subcommittee-hearing-to-explain-coverup-of-its-platforms-negative-impact-on-teens-and-children>

“The safety and well-being of the teens on our platform is a top priority for the company. We’re going to continue to make it a priority. This was important research.” Senator Blumenthal then went on: “Why did you conceal it?” The witness responded, “we didn’t make it public because we don’t, with a lot of the research we do because we think that is an important way of encouraging free and frank discussion within the company about hard issues.”<sup>420</sup>

297. Meta unilaterally decided to prioritize “free and frank” internal discussion over honest and transparent responses to direct questions from sitting United States Senators. When it “dodged, ducked, sidetracked, [and] in effect misled” Senators Blumenthal and Blackburn, Meta deceived the public via its elected representatives.<sup>421</sup>

298. Moreover, Meta’s “free and frank discussion” excuse has been contradicted publicly by Meta employees. On January 8, 2020, a Meta software engineer participated in an internal “ask me anything” session, on the last day of his four-year tenure at the company. When asked how the Meta Defendants should respond to outside pressures and critiques, that software engineer stated: “Right now, many employees feel that if they whistleblow, dissent, give feedback to unethical decisions, etc., then they are at risk for being fired. We can fix that by giving people the safety to speak up when they see something wrong going on.”<sup>422</sup>

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<sup>420</sup> Sen. Richard Blumenthal, *Blumenthal Demands Facebook Appear at Next Week’s Consumer Protection Subcomm. Hearing to Explain Coverup of its Platforms’ Negative Impact on Teens and Children* (Sept. 21, 2021), available at <https://www.blumenthal.senate.gov/newsroom/press/release/blumenthal-demands-facebook-appear-at-next-weeks-consumer-protection-subcommittee-hearing-to-explain-coverup-of-its-platforms-negative-impact-on-teens-and-children>.

<sup>421</sup> *Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before Subcomm. On Consumer Protection, Product Safety, and Data Security* (Oct. 5, 2021) available at <https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower>; see also *Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before Subcomm. On Consumer Protection, Product Safety, and Data Security* (Oct. 5, 2021) available at <https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower> (statement by Senator Brian Schatz to Frances Haugen that he had “a long list of misstatements, misdirections and outright lies from the company”).

<sup>422</sup> Haugen\_00007481 at Haugen\_00007492 (Jan. 8, 2020 report regarding “Political Ads Announcement Preview [Confidential]”).

299. Frances Haugen echoed this sentiment in her testimony before the Senate, citing evidence that Meta “is so scared of even basic transparency that it goes out of its way to block researchers who are asking awkward questions.”<sup>423</sup> Ms. Haugen further testified that Meta’s culture emphasizes insularity and promotes the idea that “if information is shared with the public, it will just be misunderstood.”<sup>424</sup>

300. The above representations of former employees are consistent with reports from Facebook content moderators that there is a “culture of fear and excessive secrecy” within Meta that “prevent[s] [them] from speaking out.”<sup>425</sup>

301. Notably, Meta’s pattern of concealment did not end after Frances Haugen came forward. On September 30, 2021, Antigone Davis, Facebook’s Head of Safety, testified before the Senate. Ms. Davis represented that, when Instagram “do[es] ads to young people, there are only three things that an advertiser can target around: age, gender, location. We also prohibit certain ads to young people, including weight-loss ads.”<sup>426</sup> She further testified, “We don’t allow the sexualization of minors on our platform.”<sup>427</sup>

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<sup>423</sup> *Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before Subcomm. On Consumer Protection, Product Safety, and Data Security* (Oct. 5, 2021) available at <https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower>.

<sup>424</sup> *Id.*

<sup>425</sup> Zoe Schiffer, *Facebook Content Moderators Call for Company to Put an End to Overly Restrictive NDAs*, *The Verge* (Jul. 22, 2021), available at <https://www.theverge.com/2021/7/22/22587757/facebook-content-moderators-ireland-end-restrictive-ndas>.

<sup>426</sup> *Protecting Kids Online: Facebook, Instagram, and Mental Health Harms Hearing before Subcomm. On Consumer Protection Product Safety, and Data Security* (Sept. 30, 2021), available at <https://www.commerce.senate.gov/2021/9/protecting-kids-online-facebook-instagram-and-mental-health-harms>.

<sup>427</sup> *Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before Subcomm. On Consumer Protection, Product Safety, and Data Security* (Oct. 5, 2021) available at <https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower>.

302. Ms. Davis's statements were subsequently proven false by Senator Mike Lee. During an October 2021 hearing, Senator Lee explained that a group called the Technology Transparency Project ("TTP") alerted the Senate that it had gained Facebook's approval to target a series of harmful ads to up to 9.1 million users between the ages of 13 and 17.<sup>428</sup> While TTP did not actually run the ads, approval from Meta to do so demonstrates that the company allows harmful targeted advertising toward minors. Senator Lee showed three examples of these Meta-approved ads, shown below:<sup>429, 430</sup>



<sup>428</sup> *Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before Subcomm. On Consumer Protection, Product Safety, and Data Security* (Oct. 5, 2021) available at

<https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower>.

<sup>429</sup> These screen captures were taken from a video of the October 5, 2021 Senate Hearing with witness Frances Haugen. See *Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before Subcomm. On Consumer Protection, Product Safety, and Data Security* (Oct. 5, 2021) available at

<https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower>.

<sup>430</sup> *Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before Subcomm. On Consumer Protection, Product Safety, and Data Security* (Oct. 5, 2021) available at

<https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower>.



303. The first ad encourages children to “[t]hrow a skittles party like no other” and displays the suggestion against a background of colorful prescription pills. The second ad promotes an “Ana Tip” instructing the viewer to “visit pro-ana sites to feed your motivation and reach your goal” when feeling hungry. The third ad informs the viewer that they “look lonely” and encourages them to “[f]ind your partner now to make a love connection.”

304. Senator Lee stated that based on the Meta Defendants’ approval of these pro-drug, pro-anorexia, pro-sexualization ads targeted to children aged 13 to 17, “[o]ne could argue that it proves that Facebook is allowing and perhaps facilitating the targeting of harmful adult-themed ads to our nation’s children.”<sup>431</sup>

305. In addition to the litany of misrepresentations and omissions identified above, Meta has repeatedly failed to tell the truth about the age of users on Instagram. In statements to Congress and elsewhere, Zuckerberg has represented that Meta does not allow users under the age of 13 to use the app. For example, in testimony before the U.S. House of Representatives Committee on Energy and Commerce, Zuckerberg stated: “There is clearly a large number of people under the age of 13 who would want to use a service like Instagram. We currently do not allow them to do that.”<sup>432</sup>

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<sup>431</sup> *Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before Subcomm. On Consumer Protection, Product Safety, and Data Security* (Oct. 5, 2021) available at <https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower>.

<sup>432</sup> *Disinformation Nation: Social Media’s Role in Promoting Extremism and Misinformation Hearing Before H. Energy and Commerce Subcomm. on Communications and Technology* 59 (March 25, 2021), available at <https://www.congress.gov/117/meeting/house/111407/documents/HHRG-117-IF16-Transcript-20210325.pdf>; see also *Disinformation Nation: Social Media’s Role in Promoting Extremism and Misinformation Hearing Before H. Energy and Commerce Subcomm. on Communications and Technology* 175 (March 25, 2021), available at <https://www.congress.gov/117/meeting/house/111407/documents/HHRG-117-IF16-Transcript-20210325.pdf> (Zuckerberg: “[O]ur policies on-on the main apps that we offer generally prohibit people under the age of 13 from using the services.”); See also *Transcript of Zuckerberg’s appearance before House committee*, Washington Post (April 11, 2018), [https://www.washingtonpost.com/news/the-switch/wp/2018/04/11/transcript-of-zuckerbergs-appearance-before-house-committee/?utm\\_term=.e7b476fb8ac7&noredirect=on](https://www.washingtonpost.com/news/the-switch/wp/2018/04/11/transcript-of-zuckerbergs-appearance-before-house-committee/?utm_term=.e7b476fb8ac7&noredirect=on) (When asked if it is correct that children can get a Facebook account starting at age 13, Zuckerberg confirmed



306. However, as discussed further above, Meta has long known that its apps are widely used by children under the age of 13. In fact, Meta knows through retrospective cohort analyses that “up to 10 to 15% of even 10 year-olds in a given cohort may be on Facebook or Instagram.”<sup>433</sup> Meta is also aware that teenagers coach tweens, defined by them as 10- to 12-year-olds, on how to use its platforms.<sup>434</sup>

307. Indeed, far from acknowledging the serious defects in its platforms and warning children and parents of the same, Meta has launched advertising campaigns designed to encourage more children to use its platforms—by touting the purported safety of those apps. For example, in a recent television ad, Meta claimed that it “build[s] technology that gives you more control and helps keep you safe” including through its “industry leading AI” and other “tools that can protect—so you can connect.” This advertisement featured children, as in the screenshot below.



that it was correct); see also NewSchools Venture Fund, *NewSchools Summit 2011: John Doerr and Mark Zuckerberg on innovation and education* (May 24, 2011), <https://www.youtube.com/watch?v=n03zAOadyMA> (Zuckerberg: “[A]nd so basically, we don’t allow people under the age of 13 on Facebook . . . today we don’t allow people under the age of 13 to sign up”).

<sup>433</sup> *Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before Subcomm. On Consumer Protection, Product Safety, and Data Security* (Oct. 5, 2021), available at <https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower>.

<sup>434</sup> Haugen\_00016728 at Haugen\_00016736-Haugen\_00016740.

Other advertising campaigns have similarly touted Meta’s AI as being a feature that contributes to its platforms’ safety—without disclosing the serious defects identified in this Complaint.

308. In another example of advertising that promotes use by children, a Meta 2021 online advertisement actively highlighted the content available for fifth grade children on its Facebook app, highlighting the experience of an art teacher who used Facebook to communicate with students during the pandemic—an experience the video noted was “a lot to unpack for little, tiny people.”

## **5. Meta facilitates the spread of CSAM and child exploitation.**

309. Various design features of Meta’s platforms promote and dramatically exacerbate sexual exploitation, the spread of CSAM, sextortion, and other socially maladaptive behavior that harms children.

310. Meta has long known about these outcomes.<sup>435</sup> In 2010, the *Daily Mail* in the United Kingdom reported that a pedophile used Facebook to groom up to 1,000 children for sex. Detectives “praised the ‘brave young people’ who helped catch this predator but attacked Meta, saying “many sickening incidents could have been avoided if the social networking site had installed a ‘panic button’ which allows youngsters to alert authorities if they suspect they were being groomed.”<sup>436</sup>

311. In 2013, the *Christian Science Monitor* reported that Facebook is a “favorite recruiting ground[]” for child sex traffickers.<sup>437</sup>

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<sup>435</sup> See, e.g., Michael H. Keller and Gabriel J.X. Dance, *The Internet Is Overrun With Images of Child Sexual Abuse*, N.Y. Times (Sept. 29, 2019), <https://www.nytimes.com/interactive/2019/09/28/us/child-sex-abuse.html>.

<sup>436</sup> Michael Seamark, *Paedophile postman used Facebook and Bebo to groom up to 1,000 children for sex*, DailyMail.com (May 28, 2010), <https://www.dailymail.co.uk/news/article1282157/Facebook-grooming-How-pervert-postman-used-site-groom-hundreds-children.html>.

<sup>437</sup> Marjorie Kehe Staff, *Kimberly Ritter stands up to child sex trafficking in US hotels*, The Christian Science Monitor (Mar. 15, 2013), <https://www.csmonitor.com/World/Making-a-difference/2013/0315/Kimberly-Ritter-stands-up-to-child-sex-trafficking-in-US-hotels>.

312. In 2017, *The Times* in the U.K. reported that Facebook “failed to take down dozens of images and videos that were ‘flagged’ to its moderators, including . . . several violent paedophilic cartoons” and “a video of an apparent sexual assault on a child.”<sup>438</sup>

313. In 2019, the *Sunday Times*, also in the U.K., reported that “Instagram is steering paedophiles towards accounts belonging to children as young as 11, who should not be on the platform in the first place.”<sup>439</sup>

314. Despite its awareness from over a decade of red flags, Meta promotes its platforms as safe and family friendly and claims that its features are designed to remind adolescent users who they are sharing with and to limit interactions with strangers.<sup>440</sup> This is simply not the case. Meta not only tolerates child exploitation, it knowingly assists, supports, and/or facilitates child exploitation through its defective features.

315. Meta also fails to enforce its own policies regarding adolescent users and does not incorporate simple, cost-effective technologies into the design of its platforms that would help reduce the prevalence of CSAM. Adolescent users are harmed by Meta’s defectively designed platforms, which are unreasonably dangerous for them.

316. For example, Facebook’s “People You May Know” feature helps predators connect with underage users and puts them at risk of sexual exploitation, sextortion, and production and distribution of CSAM; 80% of “violating adult/minor connections” on Facebook were the result of this friends recommendation system.<sup>441</sup> Instagram’s “Suggested for You” and “Because You Watched” features are similarly dangerous because they connect strangers, including adult predators, with adolescent users. As *The Sunday Times* revealed, “[p]redators

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<sup>438</sup> Alexi Mostrous, *Facebook publishing child pornography*, *The Times* (Apr. 13, 2017), <https://www.thetimes.co.uk/article/facebook-publishing-child-pornographypdgt87nm6?region=global>.

<sup>439</sup> Shanti Das & Geoff White, *Instagram sends paedophiles to accounts of children as young as 11*, *The Sunday Times* (Dec. 1, 2019), <https://www.thetimes.co.uk/article/instagram-sendspredators-to-accounts-of-children-as-young-as-11-j2gn5hq83>; Meta was aware of this report. META3047MDL-003-00153063..

<sup>440</sup> Safety Resources for Parents, Meta Privacy, Safety, and Security [https://www.facebook.com/help/1079477105456277?helpref=faq\\_content](https://www.facebook.com/help/1079477105456277?helpref=faq_content).

<sup>441</sup> META3047MDL-003-00013254 at META3047MDL-003-00013255.

who follow users posting photos of young models, dancers or gymnasts are shown a stream of other images they will like and targeted with personalised recommendations of accounts to follow. Among the suggested accounts are newly created profiles belonging to children who would otherwise be almost impossible to find unless you had their user name.”<sup>442</sup>

317. Similarly, the absence of effective age verification measures, as described above, allows predators to lie about their ages and masquerade as children, with obvious dangers to the actual children on Meta’s platforms. Prior to November 2022, the default setting for Facebook users’ profiles allowed posts to be publicly viewable by any user. This allowed predators to discover and connect with adolescent users. The same is true for users’ friends lists.

318. Instagram is similarly flawed, having transitioned to private profiles for users under 16 only in July 2021. Up until that change—and even after—millions of minors are left exposed to predation and at risk of extortion and abuse by default. Indeed, *The Sunday Times* reported that “[o]ne of those brought to the surface by Instagram’s algorithm contained selfies of a young girl and a profile description that read: “Hey people hope you decide to follow me im 11.”<sup>443</sup>

319. Distressingly, Meta considered making teenage users’ profiles “private by default” at least as early as July 2020, but chose not to do so after pitting “safety, privacy, and policy wins” against “growth impact.”<sup>444</sup>

320. Meta’s platforms also include direct messaging features. Instagram’s direct messaging system is equipped with a feature called a “photo bomb,” which is an image or video sent from a smartphone that automatically disappears from the recipient’s inbox. Both

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<sup>442</sup> Shanti Das & Geoff White, *Instagram sends paedophiles to accounts of children as young as 11*, *The Sunday Times* (Dec. 1, 2019), <https://www.thetimes.co.uk/article/instagram-sendspredators-to-accounts-of-children-as-young-as-11-j2gn5hq83>.

<sup>443</sup> Shanti Das & Geoff White, *Instagram sends paedophiles to accounts of children as young as 11*, *The Sunday Times* (Dec. 1, 2019), <https://www.thetimes.co.uk/article/instagram-sendspredators-to-accounts-of-children-as-young-as-11-j2gn5hq83>.

<sup>444</sup> META3047MDL-003-00028226; META3047MDL-003- 00013254.

Facebook’s and Instagram’s messaging system also have a “Vanish Mode” option, which makes the message disappear after it has been read.

321. Meta’s messaging features allow users to exchange private messages with other users. In addition, users do not have to be connected as friends or followers to initiate conversations, which enables predators to communicate privately with youth, with virtually no evidence of what was exchanged. This feature enables predators to identify children who are willing to respond to a stranger’s message, and then prey on their insecurities. Even though “this is the kind of thing that pisses Apple off to the extent of threatening to remove us from the App Store,” as of mid-2020, Meta had no timeline for “when we’ll stop adults from messaging minors in IG Direct.”<sup>445</sup> That remained true even after Meta received reports that a 12-year-old minor solicited on its platform “was [the] daughter of [an] Apple Security Exec.”<sup>446</sup>

322. An internal study conducted in or around June of 2020 concluded that 500,000 underage Instagram accounts “receive IIC”—which stands for “inappropriate interactions with children”—on a daily basis.<sup>447</sup> Yet, at the time, “Child Safety [was] explicitly called out as a nongoal . . . . So if we do something here, cool. But if we can do nothing at all, that’s fine, too.”<sup>448</sup>

323. Meta’s platforms also permit users to operate multiple accounts simultaneously. Operating multiple accounts enables adolescent users to have multiple unique online identities. In addition, parents are often unaware that more than one account exists and therefore do not monitor the additional accounts as they would the primary, known account. By permitting multiple accounts, Meta compounds children’s exposure to danger on its platforms and hampers parents’ attempts to monitor their children’s activities.

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<sup>445</sup> META3047MDL-003-00028019.

<sup>446</sup> *Id.* at META3047MDL-003-00028020.

<sup>447</sup> META3047MDL-003-00028214 at META3047MDL-003-00028216- META3047MDL-003-00028218.

<sup>448</sup> *Id.* at META3047MDL-003-00028215.

324. Meta’s platforms also utilize a location feature that allows users to geotag the location where a photo was taken or from where a post is being made. On Facebook, users can search posts by location and find pages and groups by the location tagged in a user’s post. Similarly, Instagram users can use the Explore tool to search for posts based on location tags.

325. Location tagging is inherently dangerous for children, as it identifies where they are located, where they vacation, where they attend school, and so on. Predators can find these posts by searching within specific geographic confines. This enables the identification of potential victims in a predator’s area, increasing the risk that adolescent users are targeted for sexual exploitation, sextortion, and CSAM.

326. Meta’s policies fail to adequately protect children, especially teens. Meta created its own definition of CSAM that fails to sufficiently meet the clear requirements provided in 18 U.S.C. § 2256(8) and related case law. Meta relies on its own definitions to fail to report harmful CSAM to the authorities as required by law.<sup>449</sup> For example, Meta utilizes the Tanner Stages, a classification system used to track children’s physical development during puberty, to assist with making moderation decisions related to potential CSAM. The scale’s creator, Dr. James Tanner, has called this approach “wholly illegitimate.”<sup>450</sup>

327. Despite using PhotoDNA and other technology in Facebook’s design as early as 2011, Meta has hindered its effectiveness and success by creating its own CSAM definitions and compromising its own detection model.

328. In fact, the United States Department of Justice (“DOJ”) urged Zuckerberg to refrain from implementing dangerous design modifications to his platforms, “embed the safety of the public in system designs,” and “act against illegal content effectively with no reduction to safety,” in ways that safeguard victims.<sup>451</sup>

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<sup>449</sup> Michael H. Keller, *Adults or Sexually Abused Minors? Getting It Right Vexes Facebook*, N.Y. Times (Mar. 31, 2022), <https://www.nytimes.com/2022/03/31/business/meta-child-sexualabuse.html>.

<sup>450</sup> *Id.*

<sup>451</sup> Letter to Mark Zuckerberg from Department of Justice 2 (October 4, 2019), <https://www.justice.gov/opa/press-release/file/1207081/download>.

329. In 2019, FBI Director Christopher Wray stated that, with the design decision to encrypt Messenger absent additional protections for children, Facebook would become “a dream-come-true for predators and child pornographers. A platform that allows them to find and connect with kids, and like-minded criminals, with little fear of consequences. A lawless space created not by the American people, or their elected officials, but by the owners of one big company.”<sup>452</sup>

330. In November of 2021, Meta indicated that it would postpone certain design changes, such as encrypting direct messages on Instagram, that would create an increased risk and volume of CSAM within its platforms. However, in January 2022, it implemented those changes to its Messenger application, increasing risks to vulnerable children and the volume of predators and CSAM without sufficient warning.<sup>453</sup>

331. Even further compounding these problems, Meta has “instructed content moderators for its platforms to ‘err on the side of an adult’ when they are uncertain about the age of a person in a photo or video, according to a corporate training document.”<sup>454</sup>

332. Shortly after Frances Haugen disclosed how Meta’s platforms harm children, an unnamed whistleblower and former Facebook employee revealed in a five-page document that Meta’s efforts to address the prevalence of CSAM within its platforms were “inadequate” and “under-resourced.”<sup>455</sup> This whistleblower also stated that Meta “doesn’t track” the full scale of the CSAM problem within its platforms because senior executives consistently limit the funds

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<sup>452</sup> Raphael Satter & Sarah N. Lynch, FBI Director Warns Facebook Could Become Platform Of ‘Child Pornographer’, Reuters (Oct. 4, 2019), <https://www.reuters.com/article/us-facebooksecurity/fbi-director-warns-facebook-could-become-platform-of-child-pornographersidUSKBN1WJ1NQ>.

<sup>453</sup> Timothy Buck, *Express Yourself in Messenger’s End-to-End Encrypted Chats*, Messenger News (Jan. 27, 2022), <https://messengernews.fb.com/2022/01/27/express-yourself-in-messengersend-to-end-encrypted-chats/>.

<sup>454</sup> Michael H. Keller, *Adults or Sexually Abused Minors? Getting It Right Vexes Facebook*, N.Y. Times (Mar. 31, 2022), <https://www.nytimes.com/2022/03/31/business/meta-child-sexualabuse.html>.

<sup>455</sup> Angus Crawford, *Whistleblower: Facebook’s response to child abuse ‘inadequate’*, BBC News, (Oct. 28, 2021) <https://www.bbc.com/news/technology-59063768>.



available for child protection design efforts, by instead focusing on the company’s “return on investment.”<sup>456</sup>

333. Meta’s failure to monitor its platforms for CSAM and protect its most vulnerable users is all the more shocking considering the troves of data and information it collects about users to monitor their preferences and lifestyles for advertising clients. Using that same technology, Meta could easily detect, report and take actions to prevent instances of sexual grooming, sextortion, and CSAM distribution on its platforms.

334. Instead of taking these crucial, life-saving actions, Meta misleadingly asserts that when it “become[s] aware of apparent child exploitation, we report it to the National Center for Missing and Exploited Children (NCMEC), in compliance with applicable law.”<sup>457</sup> But Meta’s response to law enforcement inquiries is often significantly delayed, if they respond at all, and Meta further frustrates law enforcement investigations by failing to promptly report child sexual exploitation.<sup>458</sup>

335. As a result, Meta’s apps are polluted with illegal material that promotes and facilitates the sexual exploitation of minors. Meta benefits from increased user activity (and increased advertising revenue) for disseminating these materials on its platforms.

336. Meta knows that its apps are used for the production, possession, distribution, receipt, transportation, and dissemination of millions of materials that depict obscene visual representations of the sexual abuse of children each year. Meta also knows that its defective

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<sup>456</sup> Angus Crawford, *Whistleblower: Facebook’s response to child abuse ‘inadequate’*, BBC News, (Oct. 28, 2021) <https://www.bbc.com/news/technology-59063768>.

<sup>457</sup> Meta, *Meta’s Child Sexual Exploitation, Abuse and Nudity, Facebook Community Standards*, <https://transparency.fb.com/policies/community-standards/child-sexual-exploitation-abusenudity/>.

<sup>458</sup> See Michael H. Keller & Gabriel J. X Dance, *The Internet Is Overrun With Images Of Child Sexual Abuse. What Went Wrong?*, N.Y. Times (Sept. 29, 2019), <https://www.nytimes.com/interactive/2019/09/28/us/child-sex-abuse.html> (describing the proliferation of CSAM on social media apps and the way the apps have hampered law enforcement investigations).

algorithms worsen the problem: “CEI (Child Expolitative [sic] Imagery) is . . . something people seek out, and our recommendations can make worse.”<sup>459</sup>

337. Meta knowingly fails to take adequate and readily available measures to remove these contraband materials from its platforms in a timely fashion.

338. In violation of 18 U.S.C. § 2258A, Meta knowingly fails to report massive amounts of material in violation of 18 U.S.C. § 2256 and 18 U.S.C. § 1466A.

339. Meta knows, or reasonably should have known, that its appsare increasingly unsafe for children each year, and yet fails to implement safeguards to prevent children from accessing its platforms.

340. In addition to these dangerous features that enable CSAM and child exploitation, Meta’s apps hamper identification and reporting of CSAM or child pornography. For example, they do not allow a person to report harmful content without first logging into and using the apps, which requires them to sign up for an account and provide a name and email address.<sup>460</sup>

341. Neither Instagram nor Facebook contain features that allow users to report harmful images or videos directly from their direct messaging features.<sup>461</sup>

342. Upon information and belief, Meta paused or completely stopped certain proactive scanning measures related to child exploitation imagery and CSAM for some unknown period(s), including a period within the past three years.<sup>462</sup>

343. Meta knowingly possessed the capabilities and technologies to incorporate other automatic actions into its designs to protect children (including but not limited to immediately disabling or deleting harmful content to minors) but Meta deliberately and willfully failed to do

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<sup>459</sup> META3047MDL-003-00068860 at META3047MDL-003-00068861.

<sup>460</sup> Canadian Centre for Child Protection, Reviewing Child Sexual Abuse Material Reporting Functions on Popular Platforms 16, [https://protectchildren.ca/pdfs/C3P\\_ReviewingCSAMMaterialReporting\\_en.pdf](https://protectchildren.ca/pdfs/C3P_ReviewingCSAMMaterialReporting_en.pdf) (last accessed December 28, 2022).

<sup>461</sup> *Id.*

<sup>462</sup> META3047MDL-003-00009133 at META3047MDL-003-00009134.

so. Instead, Meta brazenly allowed the sexualization and exploitation of minors on their platforms to continue.

344. Meta knowingly failed to invest in adequate CSAM prevention measures, including but not limited to client-side scanning and perceptual hashing.

345. Despite having the technology to limit the spread, Meta continues to fail to prevent the spread of this same CSAM on their platforms.<sup>463</sup>

346. Meta knowingly failed to design its platforms to proactively detect harmful interactions between adults and minors despite having the technology and capabilities to do so successfully.<sup>464</sup>

347. Finally, Meta's platforms offer unreasonably inadequate parental controls; for example, parents cannot monitor their child's account without logging into the child's account directly.

348. Collectively, these defects make it difficult for parents to monitor their use of Meta's platforms, and they enable predators to identify, connect to, and exploit children.<sup>465</sup>

**6. Meta failed to adequately warn about the dangers and harms caused by Instagram and Facebook, or provide instructions regarding safe use.**

349. Meta has failed to adequately warn the Plaintiff and the public about the physical and mental health risks posed by Instagram and Facebook. These risks include a plethora of mental health disorders like compulsive use, addiction, eating disorders, anxiety, depression, insomnia, exacerbated executive dysfunction, sexual exploitation from adult users, suicidal ideation, self-harm, and death.

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<sup>463</sup> See META3047MDL-003-00012994 at META3047MDL-003-00012995-META3047MDL003-00012996 (describing Meta's adoption of different CSAM prevention technologies).

<sup>464</sup> Hany Farid, *Reining in Online Abuses*, 19 Technology and Innovation 593-599 (2018); META3047MDL-003-00009133 at META3047MDL-003-00009134 (describing Meta's pause of certain CSAM prevention work during Covid-19 and CSAM prevention procedures more broadly).

<sup>465</sup> Hany Farid, *Reining in Online Abuses*, 19 Technology and Innovation 593-599 (2018), <https://farid.berkeley.edu/downloads/publications/nai18.pdf>.

350. Meta targets adolescent users via advertising and marketing materials distributed throughout digital and traditional media that fail to provide sufficient warnings to potential adolescent consumers of the physical and mental risks associated with using Facebook and Instagram.

351. Meta also fails to adequately warn adolescent users during the registration process. At account setup, neither Instagram nor Facebook contain warning labels, banners, or conspicuous messaging to adequately inform adolescent users of the known risks and potential physical and mental harms associated with usage. Instead, Meta allows adolescent users, including those under the age of 13, to easily create an account (or multiple accounts) and fully access these platforms.

352. Meta's failure to warn adolescent users continues even as adolescents exhibit problematic signs of addiction to and compulsive use of Facebook or Instagram. For example, Meta does not warn users when their screen time reaches harmful levels or when adolescents are accessing the apps habitually.

353. Despite proactively providing adolescent users with countless filtering and editing tools, Meta also does not appropriately warn adolescent users regarding which images have been altered or the mental health harms associated with the heavily filtered images that Meta presents and recommends.

354. Not only does Meta fail to adequately warn users and the public regarding the risks associated with Instagram and Facebook, it also does not provide sufficient instructions on how adolescents can safely use the platforms.

355. Meta's failure to adequately warn and instruct as set forth herein has proximately caused significant harm to the mental and physical well-being of young users including many students within the School District.

**D. SNAP MARKETS AND DESIGNS SNAPCHAT TO ADDICT YOUNG USERS, SUBSTANTIALLY CONTRIBUTING TO THE MENTAL HEALTH CRISIS**

356. Snap Inc. calls itself “a camera company.”<sup>466</sup> Its “flagship product, Snapchat, is a camera application that was created to help people communicate through short videos and images. [Snap] calls each of those short videos or images a Snap.”<sup>467</sup> Snap’s design of Snapchat capitalizes on children’s increasing attachment to quick, instantaneous exchanges. As Snap’s founder and CEO Evan Spiegel has explained, “today... pictures are being used for talking. So when you see your children taking a zillion photos of things that you would never take a picture of, it’s cos [sic] they’re using photographs to talk. And that’s why people are taking and sending so many pictures on Snapchat every day.”<sup>468</sup>

357. Spiegel’s statement is telling, as Snap has tailored every aspect of Snapchat to children rather than adults. Snap designed and implemented dangerous features in Snapchat that exploit children’s need for social acceptance and rewards by pushing its users to maximize their use of and engagement with the app. Snap built Snapchat using manipulative techniques to compel young users to send an ever-increasing number of photographs and videos, and to reward users who maximize their engagement with elevated status. Snap also dangerously encourages adolescents to increase engagement on the app indiscriminately, pushing tools to share sensitive material with an ever-expanding group of friends and strangers.

358. Snapchat’s design features cause its young users to suffer increased anxiety, depression, disordered eating, sleep deprivation, suicide, and other severe mental and physical injuries. Snap knows or should have known this. Snap intentionally designed Snapchat to prey on

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<sup>466</sup> Snap Inc. Form S-1 Registration Statement (*hereafter* “Form S-1”) at 1 (Feb. 2, 2017), <https://www.sec.gov/Archives/edgar/data/1564408/000119312517029199/d270216ds1.htm>; *See also*, Snap – Who We Are, Snap Inc. <https://careers.snap.com/en-US> (“We believe that reinventing the camera represents our greatest opportunity to improve the way people live and communicate.”).

<sup>467</sup> Snap Inc. Form S-1 at 1 (Feb. 2, 2017), <https://www.sec.gov/Archives/edgar/data/1564408/000119312517029199/d270216ds1.htm>.

<sup>468</sup> Stuart Dredge, *What is Snapchat? CEO Evan Spiegel explains it all for parents*, The Guardian, June 15, 2015, <https://www.theguardian.com/technology/2015/jun/17/what-is-snapchat-evan-spiegel-parents>.

the neuropsychology and behavioral patterns of children to maximize their engagement and increase Snap's advertising revenue. Despite this knowledge, Snap continues to update Snapchat and add features intentionally designed to entice, exploit, and addict kids, including Snap Streaks, trophies, social signifiers and reward systems, quickly disappearing messages, filters, lenses, and games.

359. Snap knew, or should have known, that its conduct has negatively affected youth. Snap's conduct has been the subject of inquiries by the United States Senate regarding Snapchat's use "to promote bullying, worsen eating disorders, and help teenagers buy dangerous drugs or engage in reckless behavior."<sup>469</sup> Further, Senators from across the ideological spectrum have introduced bills that would ban many of Snapchat's features that are particularly addictive to adolescents.<sup>470</sup>

360. Despite these calls for oversight from Congress, Snap has failed to curtail its use of features such as streaks, badges, and other awards that reward users' level of engagement with Snapchat. As described in detail below, Snapchat causes harm to children, the target audience for whom Snap designed and to whom it promoted its app.

### **1. Background and overview of Snapchat.**

361. Snapchat was created by three college students in 2011 and first released for iPhones in September 2011. Snapchat quickly evolved from its origin as a disappearing-message chat application after Snap's leadership made design changes and rapidly developed new features. As a result of its design and implementation of dangerous and addictive features specifically targeting youth (described below), Snapchat quickly became widely used among children.

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<sup>469</sup> Bobby Allyn, *4 Takeaways from the Senate child safety hearing with YouTube, Snapchat and TikTok*, National Public Radio (Oct. 26, 2021), <https://www.npr.org/2021/10/26/1049267501/snapchat-tiktok-youtube-congress-child-safety-hearing>.

<sup>470</sup> See Abigail Clukey, *Lawmaker Aims To Curb Social Media Addiction With New Bill*, National Public Radio (Aug. 3, 2019), <https://www.npr.org/2019/08/03/747086462/lawmaker-aims-to-curb-social-media-addiction-with-new-bill>; Social Media Addiction Reduction Technology Act, S. 2314, 116th Cong. (2019); Kids Internet Design and Safety Act, S. 2918, 117th Cong. (2021).

362. Snap marketed Snapchat as “temporary social media” that would allow users to show a more authentic, unpolished, and spontaneous side of themselves.<sup>471</sup> Snapchat’s central and defining feature, the “Snap,” allows users to send and receive ephemeral, or “disappearing,” audiovisual messages. That feature foreseeably and quickly drove users to exchange sexually explicit “Snaps,” sometimes called “sexts” even though they are photos. Because of its brand identity among millennials as the original ephemeral-messaging app, Snapchat almost immediately became known as the “sexting” app—a fact that Snap was or should have been on notice of from public sources.<sup>472</sup>

363. Snapchat creates images and GIFs for users to incorporate into their videos and picture postings. Snap has also acquired publishing rights to thousands of hours of music and video which it provides to Snapchat users to attach to the videos and pictures that they send.

## **2. Snap targets children.**

### **a. Snap has designed Snapchat to grow use by children to drive the company’s revenue.**

364. Within five months of launching, Snapchat had 40,000 users.<sup>473</sup> By May 2012, less than eight months after launching, CEO Evan Spiegel reported that the company was “thrilled” to learn that most of Snapchat’s users were high school students sending “behind-the-back photos of teachers and funny faces” to each other during class. According to Spiegel, Snap’s server data showed peaks of activity during the school day.<sup>474</sup>

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<sup>471</sup> Jenna Wortham, *A Growing App Lets You See It, Then You Don’t*, New York Times (Feb. 9, 2013), [https://www.nytimes.com/2013/02/09/technology/snapchat-a-growing-app-lets-you-see-it-then-you-dont.html?\\_r=0](https://www.nytimes.com/2013/02/09/technology/snapchat-a-growing-app-lets-you-see-it-then-you-dont.html?_r=0).

<sup>472</sup> Megan Dickey, *Let’s Be Real: Snapchat Is Totally Used For Sexting*, Bus. Insider (Nov. 30, 2012), <https://www.businessinsider.com/snapchat-growth-sexting-2012-11>; Billy Gallagher, *No, Snapchat Isn’t About Sexting, Says Co-Founder Evan Spiegel*, TechCrunch (May 12, 2012), <https://techcrunch.com/2012/05/12/snapchat-not-sexting/b> (describing an interview in which a journalist asked the CEO of Snap about Snapchat’s potential use for sexting).

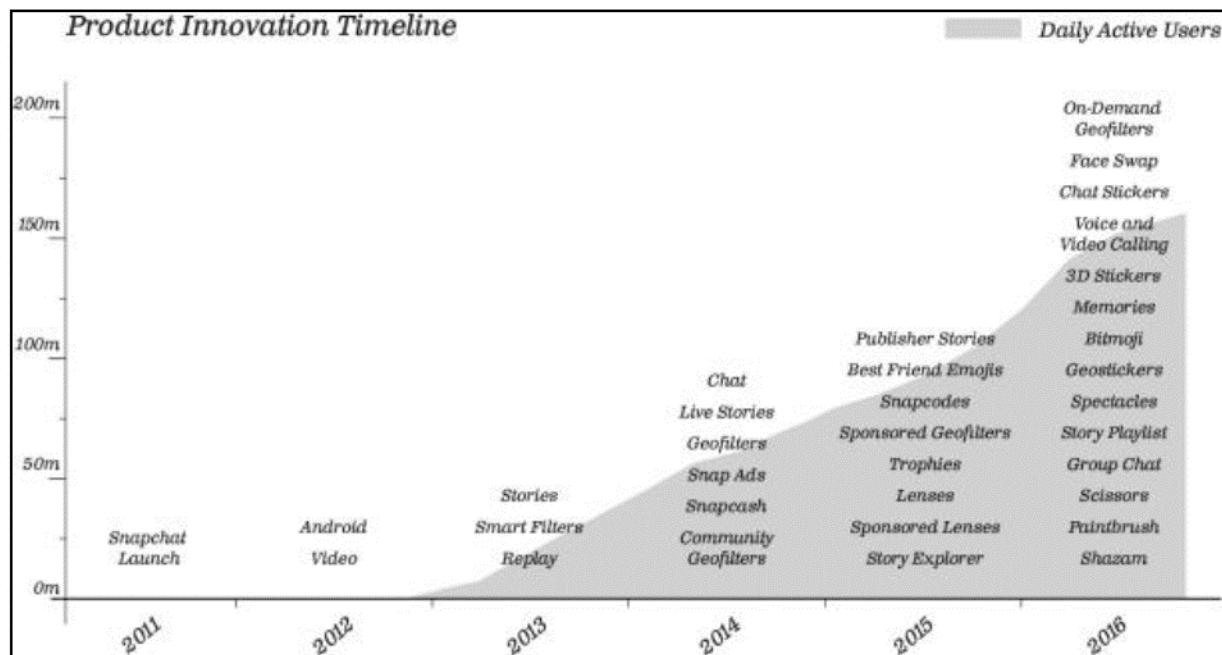
<sup>473</sup> Ken Auletta, *Get Rich U*, New Yorker (Apr. 30, 2012), <https://www.newyorker.com/magazine/2012/04/30/get-rich-u>.

<sup>474</sup> Team Snapchat, *Let’s Chat*, Snapchat Blog at <http://blog.snapchat.com> (May 9, 2012), available at <https://web.archive.org/web/20120518003029/http://blog.snapchat.com:80/>.



365. Snap immediately focused on increasing the app's frequency of use.<sup>475</sup> By late 2012, Snapchat had over a million active users sending over 20 million Snaps per day.<sup>476</sup> By 2013, Snapchat users were sending over 60 million Snaps per day.<sup>477</sup> By the end of 2022, this number has risen to over 5 billion Snaps per day.<sup>478</sup>

366. As Snap continued to quickly add new features to its app, the number of Snapchat's daily active users (users who open Snapchat at least once during a 24-hour period) rapidly increased.<sup>479</sup> In 2017, Snap reported that its users opened the app more than 18 times a day on average. By 2019, users were opening the app an average of 30 times per day.<sup>480</sup>



<sup>475</sup> Billy Gallagher, *You Know What's Cool? A Billion Snapchats. App Sees Over 20 Million Photos Shared Per Day, Releases On Android*, TechCrunch (Oct. 29, 2012), <https://techcrunch.com/2012/10/29/billion-snapchats/>.

<sup>476</sup> *Id.*

<sup>477</sup> Billy Gallagher, *Snapchat Raises \$13.5M Series A Led By Benchmark, Now Sees 60M Snaps Sent Per Day*, TechCrunch (Feb. 9, 2013), <https://techcrunch.com/2013/02/08/snapchat-raises-13-5m-series-a-led-by-benchmark-now-sees-60m-snaps-sent-per-day/>.

<sup>478</sup> Snap Inc. Q4 2022 Investors Meeting Transcript at p. 7 (Jan. 31, 2023), <https://s25.q4cdn.com/442043304/files/transcript/snap-inc.-q4-2022-transcript.pdf>.

<sup>479</sup> Snap Inc. Form S-1 at 91 (Feb. 2, 2017), <https://www.sec.gov/Archives/edgar/data/1564408/000119312517029199/d270216ds1.htm>.

<sup>480</sup> *Id.*

367. Today, Snapchat is one of the world’s most widely used apps. By its own estimates, Snapchat has 363 million daily users, including 100 million daily users in North America.<sup>481</sup> Snapchat also “reaches 90% of the 13-24 year old population” in over twenty countries, and reaches nearly half of all smartphone users in the United States.<sup>482</sup>

368. Snapchat’s explosive growth is driven by its key user demographic, 13-17 year olds. In 2022, 59% of U.S. teens used Snapchat and 15% said they used it “almost constantly.”<sup>483</sup> Snapchat proudly touts its influence over what it calls the “Snapchat Generation” (“Gen Z”).<sup>484</sup>

369. In 2014, Snap began running advertisements on Snapchat.<sup>485</sup> Snapchat’s entire business model revolves around its advertising revenue. According to internal company records, advertisements were pervasive on Snapchat by 2015 and, by 2018, 99% of Snap’s total revenue came from advertising. Advertising has accounted for 99% of Snap’s revenue each year since 2018.<sup>486</sup> In 2022, Snap’s revenue was approximately \$4.6 billion.<sup>487</sup>

370. Snap attracts advertisers by providing them access to the huge universe of Snapchat users and by collecting immense amounts of data on its users, including its pre-teen and teenage users, which it uses to target advertising to those users. Snap makes no secret of this practice, recently acknowledging that it relies “heavily on our ability to collect and disclose data, and metrics to our advertisers so we can attract new advertisers and retain existing advertisers. Any restriction or inability, whether by law, regulation, policy, or other reason, to collect and disclose

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<sup>481</sup> October 2022 Investor Presentation at 5, Snap Inc. (Oct. 20, 2022), <https://investor.snap.com/events-and-presentations/presentations/default.aspx>.

<sup>482</sup> October 2022 Investor Presentation at 6-7, Snap Inc. (Oct. 20, 2022), <https://investor.snap.com/events-and-presentations/presentations/default.aspx..>

<sup>483</sup> Pew Research Center, Teens, Social Media and Technology 2022 (Aug. 10, 2022), <https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022/>.

<sup>484</sup> SNAP0000137 at 0139.

<sup>485</sup> Angela Moscaritolo, *Snapchat Adds ‘Geofilters’ in LA, New York*, PC Mag. (July 15, 2014), <https://www.pcmag.com/news/snapchat-adds-geofilters-in-la-new-york>.

<sup>486</sup> Snap Inc. Form 10-K at 18 (Dec. 31, 2022), <https://d18rn0p25nwr6d.cloudfront.net/CIK-0001564408/c22ae9bd-7418-456e-82d4-48129de1df54.pdf>.

<sup>487</sup> *Id.*

data and metrics which our advertisers find useful would impede our ability to attract and retain advertisers.”<sup>488</sup>

371. Snap’s growth in advertising revenues was driven by changes Snap made to Snapchat that incentivized compulsive and addictive use at the expense of its users’ health. Snap’s internal research indicates the Snapchat experience is “more immersive” than its competitors’ apps. This means users are more likely than on other apps to keep watching videos (and advertising).<sup>489</sup> Other research shows that Snapchat’s daily active users are constantly using its app; compared to other apps, users are most likely to use Snapchat “right when I wake up,” “before work/school,” “during work/school,” “after work/school,” “on vacations,” and “when I’m with others[.]”<sup>490</sup>

372. Snap understands that its user experience must be immersive and all-encompassing in order to maximize its advertising revenue. Indeed, Snap recently admitted to its investors that its revenue could be harmed by, among other things, “a decrease in the amount of time spent on Snapchat, a decrease in the amount of content that our users share, or decreases in usage of our Camera, Visual Messaging, Map, Stories, and Spotlight platforms.”<sup>491</sup>

**b. Snap promotes Snapchat to children.**

373. Snap specifically promotes Snapchat to children because they are a key demographic for Snap’s advertising business.

374. In its first post on its website, Snapchat observed that “[t]o get a better sense of how people were using Snapchat and what we could do to make it better, we reached out to some of our users. *We were thrilled to hear that most of them were high school students* who were using Snapchat as a new way to pass notes in class—behind-the-back photos of teachers and funny faces

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<sup>488</sup> Snap Inc. Form 10-K at 18 (Dec. 31, 2022), <https://d18rn0p25nwr6d.cloudfront.net/CIK-0001564408/c22ae9bd-7418-456e-82d4-48129de1df54.pdf>.

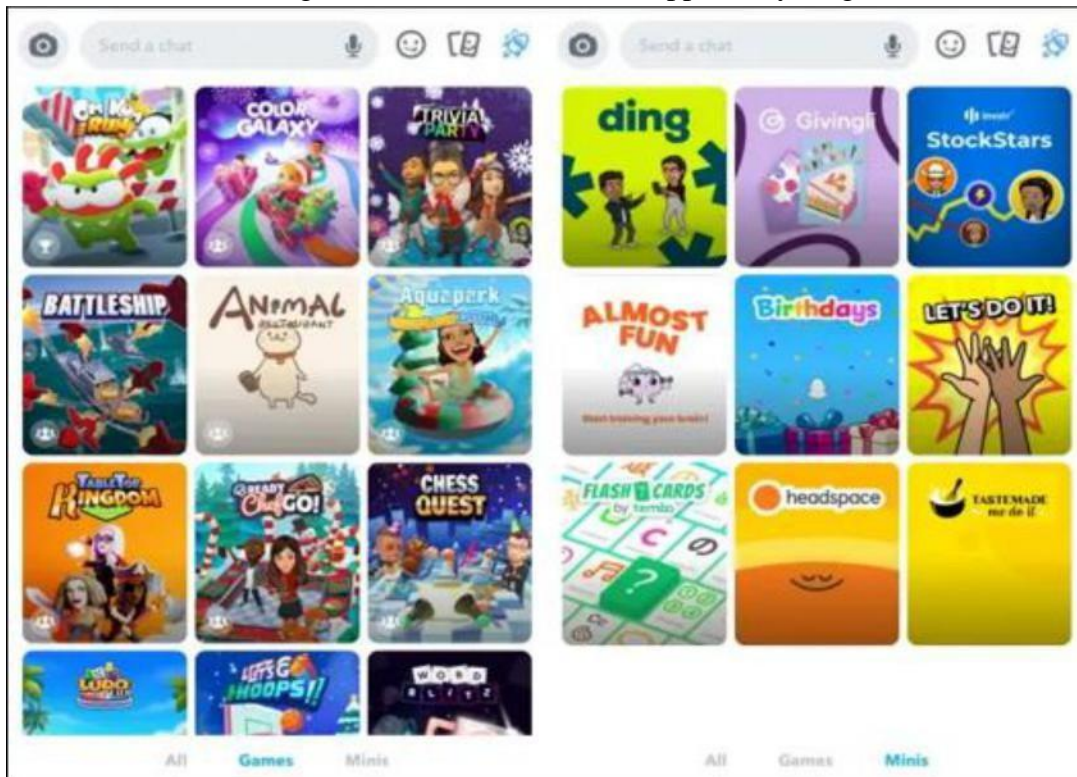
<sup>489</sup> SNAP0000103 at 0120.

<sup>490</sup> *Id.* at 0113.

<sup>491</sup> Snap Inc. Form 10-K at 19 (Dec. 31, 2022), <https://d18rn0p25nwr6d.cloudfront.net/CIK-0001564408/c22ae9bd-7418-456e-82d4-48129de1df54.pdf>.

were sent back and forth throughout the day.”<sup>492</sup> That is, from its very launch, Snap has understood that Snapchat has a disruptive effect on the classroom environment—and it has celebrated rather than attempted to mitigate such problems.

375. As shown in this capture of a Snapchat feature page created by Snap, Snap uses bright colors, cartoonish designs, and other features that appeal to younger audiences.



376. Similarly, in an October 2019 interview, Snap’s CEO explained that “we’ve seen a lot of engagement with our 13-34 demographic, which for us is strategically a critical demographic, not only because that’s a demographic that enjoys using new platforms but also because I think they represent, really, the future . . . So that’s obviously been a group that’s been really fun to build for, and really it started because those are our friends.”<sup>493</sup>

377. Snap touts to advertisers its ability to use Snapchat to reach children. In a December 2022 statement to advertisers, Snap claimed that “Snapchat delivers on the emotions that Gen Z

<sup>492</sup> Team Snapchat, *Let’s Chat*, Snapchat Blog at <http://blog.snapchat.com> (May 9, 2012), <https://web.archive.org/web/20120518003029/http://blog.snapchat.com:80/>.

<sup>493</sup> Evan Spiegel, *Co-Founder and CEO of Snap, Inc.*, Goldman Sachs, at 4:43-6:23. (Oct. 2, 2019), <https://www.youtube.com/watch?v=PQiKv-GCQ-w>.

seeks and it does so consistently across the platform in areas like Discover, Stories and the Camera.”<sup>494</sup> To prove that, Snapchat “used a neuroscience measurement called Immersion to measure reactions to different brand messaging—specifically brand purpose messaging vs. non-brand purpose messaging. Immersion captures attention and emotional resonance through variations in heart rate rhythm collected by smartwatches.”<sup>495</sup> Per Snapchat, “[a]ny brand or marketer can get on any app and *start targeting Gen Z* [emphasis added]. After all, Gen Z is digitally native. But to effectively connect and engage with this generation, that takes a different, more intentional type of platform- Snapchat.”<sup>496</sup>

378. Advertisers have responded, pouring into Snapchat money clearly intended for advertising aimed at children. Brands like candy manufacturer Sour Patch Kids, children’s toy store ToysRUs, and sugary beverage seller Kool-Aid have all run successful advertising campaigns

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<sup>494</sup> Snap for Business, *What Does Gen Z Want From Brands?* Dec. 15, 2022), <https://forbusiness.snapchat.com/en-US/blog/what-does-gen-z-want>.

<sup>495</sup> *Id.*

<sup>496</sup> *Id.*

through Snapchat, frequently using augmented reality tools developed in collaboration with Snapchat.



379. Snapchat’s age verification systems are defective. For the first two years of its existence, Snap did not even purport to limit user access to those 13 or older.<sup>497</sup> Users were not required to input a date of birth when creating an account.<sup>498</sup>

380. In 2013, Snap belatedly introduced age limits (which, as explained below, it does not effectively enforce). At the same time, Snap launched a new feature called “Snapkidz” aimed at and designed to attract younger children users, while hedging against the potential user loss due to the new age limits. The Snapkidz feature allowed children *under* the age of 13 to take filtered photos, draw on them, save them locally on their devices, send them to others, and upload them to other apps.<sup>499</sup> Although this version prevented children from sharing “Snaps” on the app, it

<sup>497</sup> Team Snapchat, *iOS Update: Bug Fixes and More!*, Snapchat Blog (June 22, 2013), <https://web.archive.org/web/20130627073951/http://blog.snapchat.com:80/>.

<sup>498</sup> *Id.*

<sup>499</sup> *Id.*



nonetheless exposed children to Snapchat’s features, which normalized and acclimatized children to using Snapchat. In addition, nothing prevented children from creating an unrestricted account with a false date of birth on Snapchat and using the app outside the SnapKidz’s limited features.<sup>500</sup>

381. The SnapKidz feature was discontinued in or around 2016. Snap now purports to prohibit users under the age of 13. But nothing prohibits the minor user from simply altering their birthdate during the same session where they were just denied an account for being an underage user. Snap could have implemented robust, effective age verification protocols. Instead, it has set up its business and app so that nothing is done to verify the age of its users or to enforce its age limitations. Snap could, but intentionally does not, verify the phone number, email address, or birthdate used to create accounts, and it allows users to create multiple accounts using the same email address or phone number.

382. Snap’s executives have admitted that Snapchat’s age verification “is effectively useless in stopping underage users from signing up to the Snapchat app.”<sup>501</sup> Not surprisingly, underage use is widespread. As of 2021, 13% of children ages 8-12 use Snapchat.<sup>502</sup>

383. Once Snapchat is installed on a user’s mobile phone, the app continues to download and install updates, design changes, and new features from Snapchat directly to its users.

384. Similarly, the absence of effective age-verification measures means that users who are much older can claim to be children—presenting an obvious danger to the actual children on Snap’s platform.

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<sup>500</sup> See Larry Magid, *Snapchat Creates SnapKidz – A Sandbox for Kids Under 13*, Forbes (June 23, 2013), <https://www.forbes.com/sites/larrymagid/2013/06/23/snapchat-creates-snapkidz-a-sandbox-for-kids-under-13/?sh=7c682a555e5a>; Anthony Cuthbertson, *Snapchat admits its age verification system does not work*, Independent (Mar. 19, 2019), <https://www.independent.co.uk/tech/snapchat-age-verification-not-work-underage-ageid-a8829751.html>.

<sup>501</sup> Isobel Asher Hamilton, *Snapchat admits its age verification safeguards are effectively useless*, Bus. Insider (Mar. 19, 2019), <https://www.businessinsider.com/snapchat-says-its-age-verification-safeguards-are-effectively-useless-2019-3>.

<sup>502</sup> Victoria Rideout *et al.*, *Common Sense Census: Media use by tweens and teens*, 2021 at 5, Common Sense Media, <https://www.commonsensemedia.org/sites/default/files/research/report/8-18-census-integrated-report-final-web 0.pdf>.



**3. Snapchat is designed to addict children through psychological manipulation.**

385. Once Snap entices children to use its app, it uses a series of features that are designed to addict children. As laid out below, those features can be broadly grouped into two categories that exploit techniques discussed earlier in this Complaint. The first are social metrics and other similar psychological manipulation techniques. The second are features designed to encourage endless passive consumption of content on Snapchat. These features, in tandem with each other and the other harmful features described throughout this section and Complaint, induce addiction, compulsive use, and other severe mental and physical harm to the child users of Snapchat.

**a. Snap designed Snapchat to drive compulsive use through a set of social metrics and other manipulation techniques that induce compulsive use.**

386. Snapchat includes a variety of social metrics—such as Snapscores, Snap Streaks, and Snap Awards—that reward users when they engage with Snapchat and punish them when they fail to engage with Snapchat. Internal research by Snap has found these psychological manipulation techniques are highly effective at instilling anxiety about not using Snapchat frequently enough—and competitor research has confirmed these features are addictive. In tandem with Intermittent Variable Rewards (“IVR”), like push notifications and design choices that make it difficult to stop using Snapchat, these induce compulsive use of the app by children.

387. These manipulation techniques are so effective in part because Snapchat’s disappearing messages themselves create a compulsion to engage with the app. Because Snaps typically disappear within ten seconds of being viewed, users feel compelled to reply immediately. Snap activates the psychological desire to reciprocate the social gesture of sending a Snap.<sup>503</sup> Snapchat also tells users each time they receive a Snap by pushing a notification to the recipient’s device. These notifications are designed to prompt users to open Snapchat repetitively, increasing the overall time spent on the app.

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<sup>503</sup> Nir Eyal, *The Secret Psychology of Snapchat*, Nir & Far (Apr. 14, 2015), <https://www.nirandfar.com/psychology-of-snapchat/>.

388. Snapscores were one of the earliest features of Snapchat. Almost as soon as Snapchat launched, Snap gave users the ability to draw and color on Snaps and add a short text caption before sending. An Android version of the app, video sharing, and user profiles with “Snapcores” soon followed.<sup>504</sup>

389. Originally called “Hiscore,” Snapscore keeps a running profile score based on a user’s Snapchat activity levels, such as the number of Snaps sent and received or Stories posted.<sup>505</sup> The sole purpose of Snapscore is to increase use and drive revenue.<sup>506</sup>



390. Although Snap does not disclose precisely how Snapcores work, sending and receiving a Snap increases the score by one point. Interacting with other app features provides additional points. A user’s Snapscore is visible on their profile, serves as a signifier of the user’s “worth,” and encourages users to further engage with Snapchat’s features to increase their score. Snapcores are important to users, especially young users, because they operate as a form of social

<sup>504</sup> Snap Inc. Form S-1 Registration Statement at 91 (Feb. 2, 2017), <https://www.sec.gov/Archives/edgar/data/1564408/000119312517029199/d270216ds1.htm>; Katie Notopoulos, *The Snapchat Feature That Will You’re your Life*, BuzzFeed News (Dec. 5, 2012).

<sup>505</sup> Snapchat Support, *What is a Snap Score?*, (“Your Snapchat score is determined by a super-secret, special equation... 🧐”) <https://support.snapchat.com/en-US/a/my-score> (“Your Snapchat score is determined by a super-secret, special equation... 🧐”).

<sup>506</sup> Brad Barbz, *\*2020 NEW \* How To Increase Snapscore By Up To 1000 Per Minute On IOS And Android - Working 2020*, YouTube (Dec. 4, 2019), [https://www.youtube.com/watch?v=Mo\\_tajuofLA](https://www.youtube.com/watch?v=Mo_tajuofLA).

validation, similar to an Instagram “Like.” Google has reported millions of searches for “How to improve Snap score.” YouTube contains numerous videos with titles like “How to Increase Snapchat Score Fast.”<sup>507</sup>

391. Snapscores reward users who post videos that are viewed extensively. This encourages many to use Snapchat in harmful and dangerous ways, to increase the virality of their videos and increase their Snapscore. As more users engage with and forward that video to others, its creator is awarded with an increased Snapscore. Snapchat’s rewards incentivize this dangerous behavior, resulting too often in physical harm or humiliation in the obsessive pursuit of social significance.

#### **i. Trophies, Charms, and Stickers**

392. Snap has also designed Snapchat to include user rewards, including trophies and other social recognition signals, similar to “Likes” on other apps. These features are highly addictive and drive compulsive use.

393. “Trophies” are emojis awarded for achieving engagement milestones or performing certain activities, such as increasing one’s Snapscore, sending creative Snaps, or posting a live story. A user’s “Trophies” are displayed in a “trophy box” viewable by their friends. Snap designed this feature to encourage users to share their videos and posts with the public, promote greater use of Snapchat, and deepen young users’ addiction to and compulsive use of the app.

394. In 2020, Snap phased out Trophies and replaced them with “Charms.” Unlike Trophies, where users were rewarded for unlocking individual accomplishments like sending 1,000 selfies, Charms reward users for achieving certain milestones in their relationship with other users. Typically, the more users interact with one another, the more Charms they unlock in their relationship. Charms are private and viewable only by users’ mutual contacts.

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<sup>507</sup> FozTech, *How to Increase Snapchat Score Fast! (100% Works in 2023)*, YouTube (Oct. 1, 2019), <https://www.youtube.com/watch?v=m7s0hvQdTok> (*How to Increase Snapchat Score Fast* has 4.2 million views as of January 10, 2023).

395. For example, if two users are at the top of each other's friends list, meaning they exchange frequent Snaps, they may unlock a "BFF (Best Friends Forever)" Charm. Conversely, the "It's Been Forever" and "It's Been a Minute" Charms may be awarded to friends who are infrequently in contact, to prompt their engagement with one another on Snapchat. Although there are a number of different Charms awarded for various reasons, all of them encourage user interaction, furthering engagement and buy-in to Snap's reward system. This in turn exacerbates social-comparison harms and undermines self-esteem.

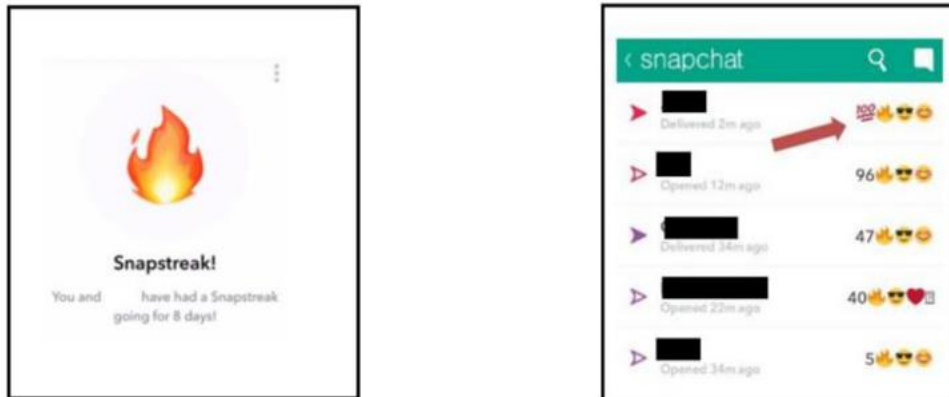


396. Snap incorporates other app features that, like Charms and Trophies, serve no functional purpose, but make Snapchat more appealing and lead to excessive use by children and teens. For example, Snap has developed images called "Stickers" for users to decorate the pictures or videos they post. Snap also offers app-specific emojis and animations that users can apply to their photos or videos.

397. Snap designed each of these features to function as rewards for increased engagement, exploit underage users' desire for social validation, and ultimately compel them to use Snapchat excessively. Because many of these rewards and scores are visible to others, these features tap into adolescents' deep-seated need for acceptance. By exploiting this need, Snap increases time spent engaging with its app and thereby its profits.

## ii. Snap Streak

398. The “Snap Streak” is unique to Snapchat and is an addictive feature “especially to teenagers.”<sup>508</sup> A Snap Streak is designed to measure a user’s Snapchat activity with another user. Two users achieve a Snap Streak when they exchange at least one Snap in three consecutive 24-hour periods. When the Streak is achieved, users receive a fire emoji next to their profile avatar. Over time, users may be rewarded with additional emojis signifying their Streak. If users reach a Streak of 100 days, for example, each receives a 100 emoji.



399. Snap Streak emojis are similar to Charms in that they reward users for interaction and are viewable only by mutual friends.

400. It is a matter of common knowledge in the social media industry that the Snap Streak feature is designed to be addictive. Meta bluntly acknowledged as much in its internal documents, stating: “Streaks are a very important way for teens to stay connected. They are usually

<sup>508</sup> See Cathy Becker, *Experts warn parents how Snapchat can hook in teens with streaks*, ABC News (July 27, 2017), <https://abcnews.go.com/Lifestyle/experts-warn-parents-snapchat-hook-teens-streaks/story?id=48778296>; Avery Hartmans, *These are the sneaky ways apps like Instagram, Facebook, Tinder lure you in and get you ‘addicted’*, Bus. Insider (Feb. 17 2018), <https://www.businessinsider.com/how-app-developers-keep-us-addicted-to-our-smartphones-2018-1#snapchat-uses-snapstreaks-to-keep-you-hooked-13>; see generally Virginia Smart & Tyana Grundig, *‘We’re designing minds’: Industry insider reveals secrets of addictive app trade*, CBC (Nov. 3, 2017), <https://www.cbc.ca/news/science/marketplace-phones-1.4384876>; Julian Morgans, *The Secret Ways Social Media is Built for Addiction*, Vice (May 17, 2017), <https://www.vice.com/en/article/vv5jkb/the-secret-ways-social-media-is-built-for-addiction>.

with your closest friends and they are addictive.”<sup>509</sup> Nonetheless, Snap continues to provide this feature to its adolescent users.

401. Worse still, to manufacture deeper addiction to its app, Snap sends notifications to users with an hourglass emoji when Streaks are about to expire—to create extra urgency, nudge users to keep their Streaks alive, and maintain a system where a user must “check constantly or risk missing out.”<sup>510</sup>



402. This feature is particularly effective with teenage users since Streaks are “a vital part of using the app and their social lives as a whole.”<sup>511</sup> Some children become so obsessed with maintaining their Streaks that they give their friends access to their accounts when they may be away from their phone for a day or more.<sup>512</sup> Aware of how important maintaining a Snap Streak is to its users, Snap has even launched a special form on its support website allowing users who lost their streak to petition to get it back.<sup>513</sup>

<sup>509</sup> Haugen\_00008303 at 8307.

<sup>510</sup> Lizette Chapman, *Inside the Mind of a Snapchat Streaker*, Bloomberg (Jan. 30, 2017), <https://www.bloomberg.com/news/features/2017-01-30/inside-the-mind-of-a-snapchat-streaker>.

<sup>511</sup> Avery Hartmans, *These are the sneaky ways apps like Instagram, Facebook, Tinder lure you in and get you ‘addicted’*, Bus. Insider (Feb. 17, 2018), <https://www.businessinsider.com/how-app-developers-keep-us-addicted-to-our-smartphones-2018-1#snapchat-uses-snapstreaks-to-keep-you-hooked-13>.

<sup>512</sup> Caroline Knorr, *How to resist technology addiction*, CNN (Nov. 9, 2017), <https://www.cnn.com/2017/11/09/health/science-of-tech-obsession-partner/index.html>; Jon Brooks, *7 Specific Tactics Social Media Companies Use to Keep You Hooked*, KQED (June 9, 2017), <https://www.kqed.org/futureofyou/397018/7-specific-ways-social-media-companies-have-you-hooked>.

<sup>513</sup> Snapchat Support, Contact Form, <https://support.snapchat.com/en-US/i-need-help?start=5695496404336640>.

403. Snap Streaks contribute to feelings of social pressure and anxiety when users lose or break a Streak. Researchers have found that losing a Streak can cause feelings of betrayal for some users, especially girls.<sup>514</sup>

404. In 2018, Snap conducted its own internal research on Snap Streaks, which found that over a third of users reported it was “extremely” or “very important” to keep a Streak going, and some users reported that the stress level to keep a Streak was “intolerable” or “large.” Snap’s users reported that Streaks are equally important to Likes on Instagram.<sup>515</sup>

405. As this research demonstrates, streaks are important to users. However, these design features do not enhance the communication function of the app. Instead, they exploit users’ susceptibility to social pressure and to the compulsive accumulation of other rewards, including Snap Score points and Charms.

### **iii. Push Notifications**

406. In addition to Snapchat’s in-app reward features, Snap also sends push notifications and emails to encourage addictive engagement and increase use. Notifications are triggered based on information Snap collects from, and about, its users. Snap “pushes” these communications to users excessively and at disruptive times of day. Snap has even designed the format of these notifications to pull users back onto its app by preying on their fear of missing out—never mind the consequences to their health and well-being.

### **iv. Impediments to Discontinuing Use**

407. Snap has intentionally and defectively designed its platforms so child users face significant navigational obstacles and hurdles when trying to delete or deactivate their Snapchat accounts, despite the ease with which a user can create one. For example, when a user elects to delete their account, they cannot do so on demand. The data and the account are preserved for 30 days. In addition, after initiating the deletion process, the user is presented with a black screen

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<sup>514</sup> Hristoya et al., “*Why did we lose our snapchat streak?*” Social media gamification and metacommunication. Computers in Human Behavior Reports, 5, 100172 (2022).

<sup>515</sup> SNAP00000008.



depicting a crying emoji and a message that reads, “Your account will be deactivated, which means friends won’t be able to contact you on Snapchat. You’ll also lose any Chats you’ve saved and Snaps and Chats you haven’t opened.”<sup>516</sup>

408. This cumbersome process prioritizes user retention and continued use over the well-being of Snapchat’s users.

**b. Snap’s defective features are designed to promote compulsive and excessive use.**

**i. “Stories” and the “Discover” Interface**

409. In October 2013, Snap added “Stories,” a feature that generates a compilation of its users’ designated photos and videos that expire in 24 hours and can be viewed an unlimited number of times by friends or anyone on Snapchat if the user sets the visibility setting to Everyone.<sup>517</sup> Within eight months of launching the Stories feature, users were viewing more Stories per day than Snaps.<sup>518</sup>

410. Snap’s Stories feature includes a running view count and list of viewers for each Story, both of which provide users with dopamine-triggering feedback that encourages users to make their Stories visible to everyone in order to increase the view count. The view count, view list, and ephemeral nature of Stories also reinforces the principle of reciprocity and compels users to monitor Stories, so they do not miss out.

411. In 2016, Snap updated the Stories feature to include recommendations based on an algorithm that considers “proximity, time, interestingness, or other such metrics.”<sup>519</sup> That same year, Snap introduced ads between Stories and updated Stories to include “Auto-Advance,” a

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<sup>516</sup> See Snapchat Support, *How do I delete my Snapchat account?*, <https://support.snapchat.com/en-US/a/delete-my-account1>.

<sup>517</sup> Darrell Etherington, *Snapchat Gets Its Own Timeline With Snapchat Stories, 24-Hour Photo & Video Tales*, TechCrunch (Oct. 3, 2013), <https://techcrunch.com/2013/10/03/snapchat-gets-its-own-timeline-with-snapchat-stories-24-hour-photo-video-tales/>.

<sup>518</sup> Ellis Hamburger, *Surprise: Snapchat’s most popular feature isn’t snaps anymore*, The Verge (Jun. 20, 2014), <https://www.theverge.com/2014/6/20/5827666/snapchat-stories-bigger-than-snaps-electric-daisy-carnival>.

<sup>519</sup> Snapchat, Inc., *Content Collection Navigation and Autoforwarding*, US 20170289234, USPTO (Mar. 29, 2016), <https://patents.justia.com/patent/20170289234>.

feature that starts a new Story automatically after the preceding one ends.<sup>520</sup> This creates an endless cycle of consumption that Snap knows, or should know, is detrimental to users' mental health.<sup>521</sup> Nevertheless, Snap designed and implemented this feature because it is proven to induce a flow state that increases app use, regardless of whether the use is healthy or enjoyable. Unsurprisingly, one study of over 2,000 UK residents found 68% of respondents who used Snapchat reported that "the platform prevented them from sleeping."<sup>522</sup>

412. Since then, Snap has built upon its Stories interface with "Discover," a feature that showcases a continuous feed of advertisements to Snapchat's captive audience. Using Discover, users may subscribe to an advertiser's "channel" and watch its Stories; as well as see what their friends are watching.

413. Both Stories and Discover encourage user engagement with Snapchat and increase the amount of time users spend using the app by making the app more addictive at the expense of users' mental health and well-being.

## ii. "Spotlight"

414. In November 2020, Snap launched "Spotlight," a feature that pushes to users "an endless feed" that Snap curates from its 300 million daily Snapchat users.<sup>523</sup> Spotlight functions and appears nearly identical to TikTok, with similar addictive qualities and harms. Snapchat's Spotlight feature allows users to make videos that anyone can view, and Snap pays users whose Spotlight videos go viral, thus serving as yet another reward system that encourages user

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<sup>520</sup> James Vincent, Snapchat will start showing ads between your friends' stories, The Verge (Jun. 14, 2016), <https://www.theverge.com/2016/6/14/11930386/snapchat-ads-api-stories>; Snapchat, Inc., *Content Collection Navigation and Autoforwarding*, US 20170289234, USPTO (Mar. 29, 2016), <https://patents.justia.com/patent/20170289234>.

<sup>521</sup> See, e.g., Gino Gugushvili et al., Facebook use intensity and depressive symptoms: a moderated mediation mode of problematic Facebook use, age, neuroticism, and extraversion at 3, BMC Psych. 10, 279 (2022), <https://doi.org/10.1186/s40359-022-00990-7>.

<sup>522</sup> Frazer Deans, *Curb Your Snapchat Addiction*, <https://www.wholesome.design/advent-2018/2-curb-your-snapchat-addiction/>.

<sup>523</sup> Salvador Rodriguez, *Snap is launching a competitor to TikTok and Instagram Reels*, CNBC (Nov. 23, 2020), <https://www.cnbc.com/2020/11/23/snap-launching-a-competitor-to-tiktok-and-instagram-reels.html>.

engagement. After Snap introduced Spotlight, user time spent on the app increased by over 200%.<sup>524</sup>

415. In February 2022, Snap CEO Evan Spiegel told investors that users are spending more time on Spotlight than almost any other aspect of Snapchat. A year prior, Snap announced “Spotlight Challenges,” which provided users with cash prizes for creating Spotlight videos with specific lenses, sounds, or topics, further integrating the user into the Snap ecosystem. Snap claims it paid out more than \$250 million in cash prizes to Spotlight Challenge participants in 2021 alone.<sup>525</sup>

**4. Snap designed Snapchat with features that harm children directly or expose children to harm.**

416. Snapchat further contains a number of features which foreseeably cause children harm above and beyond harms inherent in addiction and compulsive use.

**a. Disappearing “Snaps” and “My Eyes Only” encourage destructive behavior among Snap’s teen users.**

417. As discussed above, Snapchat’s “Snap” feature allows users to send and receive ephemeral, or “disappearing,” audiovisual messages. Prior to sending a Snap, a user can designate the period of time—typically no more than a few seconds—that the recipient will be allowed to view the Snap. According to Snapchat, once the allotted time expires, the Snap disappears forever.

418. Snapchat’s limited display time reduces teenagers’ communication apprehension and encourages users to send photos depicting deviant behavior.<sup>526</sup> Sexting is a prime example, but cyberbullying, underage alcohol consumption, and illicit use of narcotics are also commonly the subject of Snaps. A 2016 survey of pre-teens and teens ages 12-17 found that “dick pics” were

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<sup>524</sup> See *Snap Q4 Earnings Beat Estimates, User Growth Aids Top Line*, Zacks Equity Research (Feb. 5, 2021), <https://finance.yahoo.com/news/snap-q4-earnings-beat-estimates-153003950.html>.

<sup>525</sup> Mia Sato, *Snapchat will put ads within stories and share the money with creators* (Feb. 14, 2022), <https://www.theverge.com/2022/2/14/22927656/snapchat-snap-stars-stories-ads>.

<sup>526</sup> See Vaterlaus et al., “*Snapchat is more personal*”: *An exploratory study on Snapchat behaviors and young adult interpersonal relationships*, *Computers in Human Behavior*, 62, 594-601 (2016).

among some of the unwanted content that users—predominantly females—received while using the app.<sup>527</sup>

419. Disappearing Snaps do not operate as advertised. Although designed to disappear after an allotted time, recipients possess the ability to save or record them at will. This is particularly harmful to adolescents, who rely on Snap’s representations when taking and sending photos, and who only learn after the fact that recipients have the means to save photos or videos. In some cases, this can lead to sexual exploitation.

420. Snap could, but does not, warn users, including children and teenagers, that Snaps may not necessarily disappear.

421. In addition, and especially for pre-teen users, Snaps are defective because Snap’s parental controls are ill-equipped to mitigate the risks posed by this feature. As set forth below, even with parental controls activated, parents are unable to view a Snap’s content and therefore cannot adequately protect their children and/or deter their children from engaging in dangerous behavior in conjunction with sending Snaps.

422. “My Eyes Only” is yet another defective feature of Snapchat. This feature enables and encourages users to hide harmful content from their parents in a special tab that requires a passcode. Content cannot be recovered from “My Eyes Only”—allegedly even by Snap itself. Snap designed “My Eyes Only” knowing it would likely be used to store potentially illegal and injurious photos and images like sexts and CSAM.<sup>528</sup> This dangerous feature unreasonably increases the risk that Snapchat’s adolescent users, many under age 13, will be targeted and sexually exploited and/or trafficked by child predators.

423. The content in “My Eyes Only” self-destructs if a user attempts to access the hidden folder with the wrong code. “My Eyes Only” has no practical purpose or use other than to hide

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<sup>527</sup> Kofoed et al., (2106) *A snap of intimacy: Photo-sharing practices among young people on social media*, First Monday 21(11), <https://doi.org/10.5210/fm.v21i11.6905>.

<sup>528</sup> Salvador Rodriguez, *Snapchat Finally Acknowledges the Existence of Sexting With 'Memories' The latest app update includes a tool called "My Eyes Only" that lets you privately store sensitive photos and videos*, Inc., (Jul. 6, 2016), <https://www.inc.com/salvador-rodriguez/snapchat-memories-sexting.html>.

potentially dangerous content from parents and/or legal owners of the devices used to access Snapchat. Moreover, while this information and evidence should be in Snap’s possession and control, it has designed this feature in a way that causes the permanent loss of relevant, material, and incriminating evidence.

**b. Snapchat’s “Snap Map” feature endangers children.**

424. Snapchat also contains a feature called “Snap Map” that allows users to share their location with their followers (and the public) on an activity-level-based, color-coded heatmap. At all relevant times, this feature has been available to all users, including minors. Although users can disable “Snap Map,” this is not a default setting.

425. Snap Map is an unreasonably dangerous feature for underage users because it provides strangers with their locations, exposing children and adolescents to potential harm. Researchers have also found that Snap Map causes anxiety for some users, as they are able to witness in real time how they have been excluded from gatherings.<sup>529</sup> For young people especially, such social comparison often leads to distress and depression.

426. Snap Map also functions as a social metric. A report by 5Rights, a United Kingdom-based children’s online safety advocacy group highlighted the experience of John, a 14 year old boy, who explained that “[h]aving more connections on Snapchat makes his Snap Map look more crowded, which he can then show off to people in real life and therefore appear more ‘popular.’”<sup>530</sup>

**c. Snapchat’s “Quick Add” feature endangers children.**

427. Through a feature known as “Quick Add,” Snap recommends new, sometimes random friends, similar to Facebook’s “People You Might Know” feature. Suggestions are

<sup>529</sup> See Dunn et al., “*Oh, Snap!*”: A Mixed-Methods Approach to Analyzing the Dark Side of Snapchat, *The Journal of Social Media in Society*, 9(2), 69-104 (2020).

<sup>530</sup> 5Rights Foundation, Pathways: How digital design puts children at risk (July 2021), <https://5rightsfoundation.com/uploads/Pathways-how-digital-design-puts-children-at-risk.pdf>.

formulated using an algorithm that considers users' friends, interests, and location. Quick Add encourages users to expand their friend base to increase their Snapscore by interacting with an ever-expanding group of friends, which--in addition to expanding their time online--can result in exposure to dangerous strangers. Of particular concern, until 2022, Quick Add's suggestions included profiles for users Snap knew to be between the ages of 13-17, meaning that Quick Add could, and in fact did, recommend that a minor and adult user connect.

428. Criminal users interested in selling drugs to minors have utilized the Quick Add feature to find random friends interested in making a purchase.

429. Despite these dangers Snap designed Quick Add because it increases the odds that users will add friends, send more Snaps, and spend more time using Snapchat.

430. In 2022, Snap revised the Quick Add feature to limit the friend suggestions promoted to minor users. For those aged 13 to 17, Quick Add would only suggest friends who shared a certain number of common friends with the minor user. Snap did not disclose how many common friends must be shared by each user to satisfy this safety feature. Further, this modification to the Quick Add feature still does not prohibit the connection of minors with adults.

**d. Snapchat's Lenses and Filters features promote negative appearance comparison.**

431. Snap also incorporates numerous custom-designed lenses and filters, which allow users to edit and overlay augmented-reality special effects and sounds on their Snaps. Many of Snapchat's lenses and filters change users' appearance and face, creating unrealistic, idealized versions that cause profound body image issues in teenagers, especially girls.

432. Examples of these features include the Smoothing Filter, which blurs facial imperfections and evens out skin tone; Bold Makeup, which adds makeup over the user's face, blurs imperfections, and evens out skin tone; Sunkissed and Cute Freckles, which adds freckles over the nose and cheeks, blurs imperfections, evens out skin tone, and adjusts skin color; Face and Body Mellow Glow, which smooths the face and body and adjusts skin color; and Fluffy Eyelashes, which alters the shape of the user's face by lifting their eyes and adding more pronounced cheek bones.

The common theme among all of these filters is that they remove the subjects' perceived blemishes to create the perfect "selfie."



433. A 2017 study found that these features made Snapchat one of the worst social media platforms for the mental health of children and adolescents, behind only Instagram.<sup>531</sup> In recent years, plastic surgeons have reported an increase in requests for alterations that correspond to Snapchat's filters. This has led researchers to coin the term "Snapchat Dysmorphia," in which the effect of Snapchat's filters triggers body dysmorphic disorder.<sup>532</sup> The rationale underlying this disorder is that beauty filters on Snapchat create a "sense of unattainable perfection" that leads to self-alienation and damages a person's self-esteem.<sup>533</sup> One social psychologist summarized the

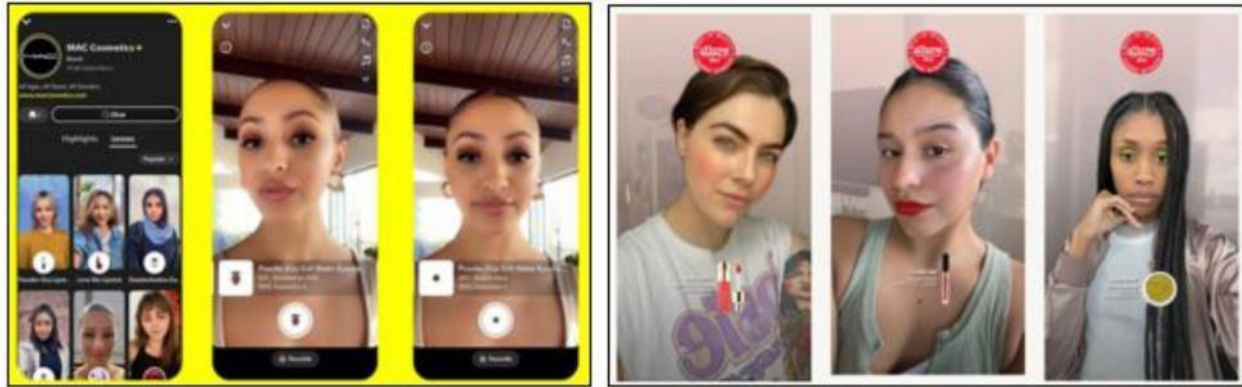
<sup>531</sup> Kara Fox, *Instagram worst social media app for young people's mental health*, CNN (May 19, 2017), <https://www.cnn.com/2017/05/19/health/instagram-worst-social-network-app-young-people-mental-health/index.html>.

<sup>532</sup> Chen et al., *Association Between Social Media and Photograph Editing Use, Self-esteem, and Cosmetic Surgery Acceptance*, JAMA Facial Plastic Surgery, 2019; See also Nathan Smith & Allie Yang, *What happens when lines blur between real and virtual beauty through filters*, ABC News (May 1, 2021), <https://abcnews.go.com/Technology/lines-blur-real-virtual-beauty-filters/story?id=77427989>.

<sup>533</sup> Chen et al., *Association Between Social Media and Photograph Editing Use, Self-esteem, and Cosmetic Surgery Acceptance*, JAMA Facial Plastic Surgery, 2019; See also Nathan Smith & Allie Yang, *What happens when lines blur between real and virtual beauty through filters*, ABC News (May 1, 2021), <https://abcnews.go.com/Technology/lines-blur-real-virtual-beauty-filters/story?id=77427989>.



effect as “the pressure to present a certain filtered image on social media,” which can certainly play into [depression and anxiety] for younger people who are just developing their identities.”<sup>534</sup>



434. Snap also created and promoted “smart filters” that allowed users to stamp date/time, temperature, battery life, altitude, and speed on their Snaps.<sup>535</sup> These filters utilize sensor data on users’ devices to provide the desired filter stamp.

435. A particularly dangerous smart filter is the speed filter, which from 2013 to 2021 allowed users to record their real-life speed and overlay that speed onto Snaps. Snap knew, or should have known, that the speed filter served no purpose other than to motivate, incentivize, and/or encourage users to drive at dangerous speeds in violation of traffic and safety laws. Indeed, soon after launching its speed filter, the feature became a viral game for users—particularly teenage users—to capture photos and videos of themselves driving at 100 miles-per-hour or more. Tragically, the quest to capture a 100 mile-per-hour Snap caused a number of fatal vehicle accidents involving teens and young adults.<sup>536</sup>

<sup>534</sup> Nathan Smith & Allie Yang, *What happens when lines blur between real and virtual beauty through filters*, ABC News (May 1, 2021), <https://abcnews.go.com/Technology/lines-blur-real-virtual-beauty-filters/story?id=77427989>.

<sup>535</sup> Karissa Bell, *Snapchat adds an altitude filter to show how high you are*, (Aug. 19, 2016), <https://mashable.com/article/snapchat-altitude-filter-how-to>.

<sup>536</sup> *Did Snapchat play role in deaths of 3 young women?*, ABC6 Action News (Feb. 16, 2016), <https://6abc.com/action-news-investigation-snapchat-fatal-car-crash-philadelphia/1196846/>; Manpreet Darroch, *Snapchat and driving . . . you could be sending your last snap* (Apr. 25, 2016), <http://www.youthforroadsafety.org/news-blog/news-blog-item/t/snapchat-and-driving-hellip-you-could-be-sending-your-last-snap>; *The Most Dangerous App on Your Phone*,

436. Snap knew, or should have known, its speed filter created an unreasonable risk of harm to its users and the public. Despite this knowledge, however, as well as pleas from the public to disable the filter, Snap refused to remove the filter from its application until 2021.<sup>537</sup>

**5. Snap has implemented ineffective and misleading parental controls, further endangering children.**

437. Snap has also designed and set up Snapchat with inadequate parental controls.

438. From Snapchat's launch in 2011 until August 2022, Snapchat had no parental controls even though its core user base was under the age of 18 and a significant number of those users were under the age of 13.

439. In August 2022, Snap introduced the "Family Center." The features and processes offered through the Family Center are woefully inadequate to protect teen and pre-teen users. The Family Center allows a parent or guardian to install Snapchat on their phone and then link to the child's account. The parent or guardian can then see who the child user is communicating with. However, the Family Center does not allow a parent or guardian to block minors from sending private messages, or disappearing messages, control their child's use or engagement with many of Snapchat's features, control their child's use of Snapchat's geolocation feature, or control who their child may add to their friend list. Finally, the Family Center fails to help a parent monitor their child's account when the child has secretly created a Snapchat account without the parents' knowledge in the first place.

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*DistractedDriverAccidents.com*, <https://distracteddriveraccidents.com/the-most-dangerous-app-on-your-phone/>.

<sup>537</sup> Bobby Allyn, *Snapchat Ends 'Speed Filter' That Critics Say Encouraged Reckless Driving*, NPR (June 17, 2021), <https://www.npr.org/2021/06/17/1007385955/snapchat-ends-speed-filter-that-critics-say-encouraged-reckless-driving>.

**6. Snapchat's AI engages underage users in inappropriate conversations.**

440. In early 2023, Snapchat released an artificial intelligence chatbot, My AI, to mimic friend-like conversation.<sup>538</sup>

441. Snap admits that My AI is an experimental feature for a subset of Snapchat users and cautions that it should not be given secret information or relied upon for advice; however, it is available for use by minors.<sup>539</sup>

442. In effect, Snapchat is running an experiment on its child users by adding My AI to their friends list and allowing it to dispense advice to minors while offering parents little to no visibility into how their children are interacting with their new “friend.”<sup>540</sup>

443. Tests by experts posing as children have proven that My AI will dispense advice on how to set the mood for a sexual encounter and how to mask the smell of alcohol and marijuana to children as young as 13 years old.<sup>541</sup>

444. There are no currently accepted standards for developing large-language model artificial intelligence to interact with minor children.

**7. Snap facilitates the spread of CSAM and child exploitation.**

445. Despite being marketed to and designed for children, Snapchat includes a number of features that promote and dramatically exacerbate sexual exploitation, the spread of CSAM, sextortion, and other socially maladaptive behavior that harms children. Snap knows or should have known that its features are unsafe for children and that it fails to implement reasonable, child-protective safeguards. For example, by failing to age-restrict its Discover feature, Snapchat's algorithm has recommended inappropriate sexual content to adolescent users. By promoting the connection between minors and adults, it is facilitating child exploitation and predation. By failing

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<sup>538</sup> Geoffrey A. Flower, *Snapchat tried to make a safe AI. It chats with me about booze and sex.*, The Wash. Post (March 14, 2023), <https://www.washingtonpost.com/technology/2023/03/14/snapchat-myai/>.

<sup>539</sup> *Id.*

<sup>540</sup> *Id.*

<sup>541</sup> *Id.*

to implement parental controls that give parents true control over their children's activity, Snap allows harmful interactions with predators to continue unnoticed.

446. As a direct consequence of the child exploitation that occurs on its platform, Snapchat is tainted by illegal material that promotes and facilitates the continued sexual exploitation of minors. Snap receives value in the form of increased user activity for the dissemination of CSAM on its app.

447. Furthermore, Snapchat's disappearing-content design, while appealing to minors, makes it more difficult for parents to monitor their children's social-media activity. This feature also contributes to a sense of impunity for many users, encouraging and fomenting exploitation and predatory behavior, which has been observed in multiple empirical studies.<sup>542</sup> According to these studies, Snapchat users believe their conduct is hidden and accordingly feel empowered to engage in criminal behavior through the app without fear of getting caught.

448. These feelings are promoted by design. Snap intends for the app's disappearing messaging to entice users to share highly personal photos and information that many users would otherwise feel uncomfortable sharing on "higher-stake" apps.<sup>543</sup> In short, this design choice encourages and allows minors to share harmful, illegal, and sexually explicit images while providing predators with a vehicle to recruit victims. Studies have also found that the "close ties" generated between teenagers on Snapchat foster the conditions for grooming and other predatory behavior.

449. As a result, Snapchat is one of the go-to platforms for sexual predators.<sup>544</sup>

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<sup>542</sup> *Snapchat by the Numbers: Stats, Demographics & Fun Facts*, Omnicore (Mar. 2, 2022), <https://www.omnicoreagency.com/snapchat-statistics/>.

<sup>543</sup> See Evelyn Lopez et al., *The Gratifications of Ephemeral Marketing Content, the Use of Snapchat by the Millennial Generation and Their Impact on Purchase Motivation*, Global Bus. Rev. (2021), <https://journals.sagepub.com/doi/pdf/10.1177/09721509211005676>.

<sup>544</sup> See, e.g., Rebecca Woods, *What Are The Dangers Of Snapchat To Avoid?*, PhoneSpector (June 16, 2021), <https://phonespector.com/blog/what-are-the-dangers-of-snapchat-to-avoid/>.

450. In 2014, Snap introduced “Snapcash,” a peer-to-peer mobile payment service. Snapcash provided a way for users to pay for private content with little to no oversight.<sup>545</sup> Snapcash enabled CSAM and other sexual exploitation, as users were paid with Snapcash to send, receive, create, publish, save, accept, or otherwise participate in CSAM. It also enabled predators to extort cash from adolescent users by threatening to disseminate CSAM to other users.

451. Snapcash was abruptly removed from Snapchat in 2018 as users were sending sexually explicit photos and using Snapcash for payment.<sup>546</sup>

452. Snapchat also allows users to voice or video call one another in the app.<sup>547</sup> This feature is dangerous when paired with the many others that permit easy access to minors by predators, such as Quick Add and Snap Map. It allows predators to call and video chat with minors in private, with virtually no evidence of what was exchanged. Predators use this function to identify children willing to add and speak with a stranger, and then prey on the child’s vulnerabilities.

453. Collectively, these features promulgate communication and conduct with a false sense of intimacy between users and encourage predators to use Snapchat to target children for grooming, sexual exploitation, sextortion, and CSAM.

454. In November 2019, a bipartisan group of Senators sent a letter to leading tech companies, including Snapchat. The letter sought answers about the online sexual grooming of children and CSAM detection technologies.<sup>548</sup> The following year, ParentsTogether, a national parent group, delivered a petition from 100,000 parents to Snap demanding that the company do

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<sup>545</sup> Kurt Wagner, *Snapchat to Let You Send Money to Friends, Thanks to Square*, Vox, <https://www.vox.com/2014/11/17/11632930/snapchat-to-let-you-send-money-to-friends-thanks-to-square>.

<sup>546</sup> Christian Hargrave, *Snapcash Goes Away After Excessive Feature Misuse*, App Developer Magazine (July 25, 2018), <https://appdeveloperomagazine.com/snapcash-goes-away-after-excessive-feature-misuse/>.

<sup>547</sup> Snapchat Support, *How to Start a Video Chat on Snapchat*, <https://support.snapchat.com/en-GB/a/video-chat#:~:text=You%20can%20Video%20Chat%20with,into%20a%20full%2Dscreen%20Chat>.

<sup>548</sup> *Letter to Sundar Pichai and 36 other Tech Companies by Senate Committee* (Nov. 18, 2019), <https://www.blumenthal.senate.gov/imo/media/doc/11.18.19%20-%20Google%20-%20CSAM.pdf>.

more to “protect children from sexual abuse and exploitation” on Snapchat.<sup>549</sup> The petition listed numerous examples of widespread online sexual grooming of children, including: a high school coach in New Mexico who used Snapchat to extort sexual videos from several girls as young as fourteen; a Cleveland man who posed as a therapist and blackmailed a thirteen-year-old girl into sending him sexual videos and photos; and a Virginia man who was arrested for running a sextortion ring on Snapchat, coercing children into sending sexually explicit material.<sup>550</sup>

455. In response, Snap announced that by Fall of 2020, it would deploy technology in addition to Microsoft’s PhotoDNA to help stop the spread of CSAM through its app.

456. By failing to utilize these technologies until late 2020, Snap harmed adolescent users as its app contributed to child exploitation, sextortion, and the spread of CSAM.

457. In addition, while Snapchat allows users to report harmful images or videos, they cannot specifically report CSAM that is sent to a user via direct messaging, including from another user’s camera roll.

458. Snapchat’s disappearing messages cannot be reported at all.

459. While Snap states that it is using “technology to identify *known* illegal images and videos of CSAM and report them to NCMEC,” it does not address how Snapchat’s design contributes to the ongoing proliferation of CSAM materials and the sexual exploitation of its adolescent users.

460. Utilizing the data and information it collects about Snapchat’s users, Snap could detect, report, and take actions to prevent instances of sexual grooming, sextortion, and CSAM distribution.

461. Despite receiving numerous reports regarding how Snapchat’s features contribute to child exploitation, Snap has elected to keep many of these features in place.<sup>551</sup> It has done so

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<sup>549</sup> *Snapchat: Prevent Pedophiles from Sharing Abuse Videos*, <https://parents-together.org/snapchat-petition>.

<sup>550</sup> *Id.*

<sup>551</sup> See, e.g., Zak Doffman, *Snapchat Has Become A ‘Haven For Child Abuse’ With its ‘Self-Destructing Messages’*, *Forbes* (May 26, 2019),

because removing them would significantly diminish Snapchat's popularity and negatively impact profits.

462. Notwithstanding these glaring flaws, Snap advertises and promotes its app as safe and fun. Snap's Vice President of Global Public Policy, Jennifer Stout, stated in written testimony to a Senate Subcommittee that Snap takes "into account the unique sensitivities and considerations of minors when we design platforms"<sup>552</sup> when, in fact, Snap intentionally designed its platform to promote compulsive and excessive use and help underage users conceal information from their parents. Stout claimed that Snap makes it harder for strangers to find minors when, in fact, Snapchat's "Quick Add" feature is responsible for introducing minors to complete strangers, and its "Snap Map" feature has enabled threats, exploitation, and location of minors by complete strangers. Likewise, Snap's Head of Global Platform Safety, Jacqueline Beauchere, represented to the public that "Snapchat is designed for communications between and among real friends; it doesn't facilitate connections with unfamiliar people like some social media platforms."<sup>553</sup> But again, this is not true and/or historically was not the case.

463. In addition, Snap knows or should have known that Snapchat facilitates and encourages the production, possession, distribution, receipt, transportation, and dissemination of millions of materials that exploit children and violate child pornography laws. Snap further knows, or should have known, that its app facilitates the production, possession, distribution, receipt, transportation, and dissemination of materials that depict obscene visual representations of the sexual abuse of children.

464. Upon information and belief, Snap has developed, or is developing, artificial intelligence technology that detects adult users of Snapchat who send sexually explicit

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<https://www.forbes.com/sites/zakdoffman/2019/05/26/snapchats-self-destructing-messages-have-created-a-haven-for-child-abuse/?sh=411b8e1d399a>.

<sup>552</sup> Snap's Senate Congressional Testimony - Our Approach to Safety, Privacy and Wellbeing, <https://values.snap.com/news/senate-congressional-testimony-our-approach-to-safety-privacy-and-wellbeing>.

<sup>553</sup> Snap's Meet Our Head of Global Platform Safety, <https://values.snap.com/news/meet-our-head-of-global-platform-safety>.



content to children and receive sexually explicit images from children. This technology furnishes Snap with actual knowledge that a significant number of minor users of Snapchat are solicited to send, and do send, sexually explicit photos and videos of themselves to adult users in violation of 18 U.S.C. § 1591(a)(1)-(2).<sup>554</sup>

**8. Snap failed to adequately warn about the harms its app causes or provide instructions regarding safe use.**

465. Since Snap’s inception, it has failed to warn adolescent users and the public about Snapchat’s physical and mental health risks. These risks include, but are not limited to, addiction, compulsive and excessive use, sexual exploitation by adult users, dissociative behavior, social isolation, and an array of mental health disorders like body dysmorphia, anxiety, depression, and insomnia.

466. Snap targets adolescent users via advertising and marketing materials distributed via digital and traditional media, including expensive advertisements placed during high-profile sporting events. Snap fails to warn the targets of these ads—often minors—about the physical and mental risks associated with using Snapchat.

467. Snap further fails to warn adolescent users during the registration process. At account setup, Snapchat contains no warning labels, banners, or conspicuous messaging to adequately inform adolescent users of the known risks and potential physical and mental harms associated with usage of the app. Instead, Snap allows adolescent users to easily create an account (or multiple accounts) and fully access the platform.

468. Snap’s lack of adequate warnings continues after an adolescent has Snapchat. Snap does not adequately inform adolescent users that their data will be tracked, used to help build a unique algorithmic profile, and potentially sold to Snap’s advertising clients, who will in turn use the data to target and profile the user.

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<sup>554</sup> See SNAP0000001-SNAP0000002.

469. Alarming, Snap also does not warn adolescent users before facilitating adult connections and interactions that adult predators use Snapchat. It also fails to instruct adolescent users on ways to avoid unknown adults on Snap.

470. Snap also fails to warn adolescent users who exhibit problematic signs of addiction or are habitually and compulsively accessing the app. Instead, Snap utilizes push notifications to encourage engagement with Snapchat.

471. In addition, despite proactively providing adolescent users with countless filtering and editing tools, Snap does not warn its adolescent users regarding the mental health harms associated with those heavily filtered images.

472. Snap also does not warn users or the public that:

- a. adult predators target children and teenagers for sexual exploitation, sextortion, and CSAM on Snap's app;
- b. usage of its app can increase the risk of children being targeted and sexually exploited by adult predators;
- c. usage of its app can increase risky and uninhibited behavior in children, making them easier targets for sexual exploitation, sextortion, and CSAM by adult predators;
- d. and, end-to-end encryption and/or ephemeral nature of Snap's direct messaging feature prevents the reporting of CSAM.

**E. BYTEDANCE MARKETS AND DESIGNS ITS TIKTOK TO ADDICT YOUNG USERS, SUBSTANTIALLY CONTRIBUTING TO THE MENTAL HEALTH CRISIS**

473. Since its launch, TikTok has grown exponentially. In late 2021, its owner and creator ByteDance publicly stated that TikTok had 1 billion active global users, up from 55 million in early 2018 and 700 million in mid-2020.<sup>555</sup> One internal marketing strategy document reported

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<sup>555</sup> Jessica Bursztynsky, *TikTok says 1 billion people use the app each month*, CNBC (Sept. 27, 2021), <https://www.cnbc.com/2021/09/27/tiktok-reaches-1-billion-monthly-users.html>.

that as of July 2020, TikTok had 95% market penetration in Mobile App Users/ smartphone population of users under 17.<sup>556</sup>

474. A large swath of TikTok’s user base is comprised of American children. In July 2020, TikTok reported that more than one-third of its 49 million daily users in the United States were 14 or younger.<sup>557</sup> More recently, a 2022 Pew Research Center survey reported that 67% of American teenagers (age 13-17) use TikTok, with most American teenagers (58%) using the app daily. Among teenage TikTok users, a quarter say they use the site or app almost constantly.<sup>558</sup> In another recent report, more than 13% of young users declared they “wouldn’t want to live without” TikTok.<sup>559</sup>

475. TikTok’s capture of the American youth market is no accident, but instead the result of a carefully executed campaign. Early on, Alex Zhu, one of TikTok’s creators, recognized that “[t]eenagers in the U.S. [were] a golden audience” for this emerging social media.<sup>560</sup> To cash in on this gold, ByteDance implemented a series of features designed to attract and addict young users. As Zhu explained in 2019, “[e]ven if you have tens of millions of users, you have to keep them always engaged.”<sup>561</sup> This engagement has come at the cost of young users’ health.

### **1. Background and overview of TikTok.**

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<sup>556</sup> TIKTOK3047MDL-001-00000622 at \*27.

<sup>557</sup> Raymond Zhong & Sheera Frenkel, *A Third of TikTok’s U.S. Users May Be 14 or Under, Raising Safety Questions*, N.Y. Times (Aug. 14, 2020), <https://www.nytimes.com/2020/08/14/technology/tiktok-underage-users-ftc.html>.

<sup>558</sup> Emily Vogels *et al.*, *Teens, Social Media and Technology 2022*, Pew Rsch. Ctr. (Aug. 10, 2022), <https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022/>.

<sup>559</sup> Victoria Rideout *et al.*, *Common Sense Census: Media use by tweens and teens, 2021* at 31, Common Sense Media (2022), [www.common sense media.org/sites/default/files/research/report/8-18-census-integrated-report-final-web\\_0.pdf](http://www.common sense media.org/sites/default/files/research/report/8-18-census-integrated-report-final-web_0.pdf).

<sup>560</sup> Paul Mozur, *Chinese Tech Firms Forced to Choose Market: Home or Everywhere Else*, N.Y. Times (Aug. 9, 2016), <https://www.nytimes.com/2016/08/10/technology/china-homegrown-internet-companies-rest-of-the-world.html>.

<sup>561</sup> Biz Carson, *How A Failed Education Startup Turned into Musical.ly, The Most Popular App You’ve Probably Never Heard Of*, Bus. Insider (May 28, 2016), <https://www.businessinsider.com/what-is-musically-2016-5> (emphasis added).

476. In 2012, Beijing-based technologist Zhang Yiming paired up with an American venture capitalist, Matt Huang, to launch ByteDance and its first app Jinri Toutiao (“Today’s Headlines”), which utilized A.I. to gather and present world news to users on a single feed.

477. Following the success of its first app, ByteDance created Douyin in 2016, a music-based app loosely modeled on the popular app Musical.ly. Musical.ly was a critical hit in the U.S. as American teens gravitated to the platform, which allowed users, including minor users, to create 15-second videos of themselves lip-syncing, dancing, or goofing around to popular songs and movie scenes, and then post them to a scrollable feed for other users to see.

478. In 2017, ByteDance launched TikTok, a version of Douyin for the non-Chinese market, and acquired Musical.ly, which by then boasted a user base of almost 60 million monthly active users, for \$1 billion. Nine months later, ByteDance merged its newly acquired app into its existing platform, and a global version of TikTok was born.

479. Douyin is a version of TikTok that is exclusively for Chinese users. ByteDance’s design of Douyin is profoundly different than TikTok. Douyin serves its Chinese users educational and patriotic content and limits their use to just 40 minutes per day.<sup>562</sup> TikTok, in sharp contrast, has no usage limits and is designed to encourage addictive and compulsive use. Far from promoting educational content, TikTok’s algorithm instead actively sends its young American users down a harmful rabbit hole of artificially filtered “ideal” body images and dangerous viral challenges.

**2. ByteDance intentionally encourages youth to use its app compulsively and then leverages that use to increase revenue.**

480. ByteDance has designed and aggressively marketed TikTok, the harmful and addictive version of Douyin, to attract young Americans. Zhu highlighted the importance of the U.S. teen market to TikTok, admitting that in China, “teenage culture doesn’t exist” because “teens

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<sup>562</sup> Sapna Maheshwari, *Young TikTok Users Quickly Encounter Problematic Posts, Researchers Say*, N.Y. Times (Dec. 14, 2022), <https://www.nytimes.com/2022/12/14/business/tiktok-safety-teens-eating-disorders-self-harm.html>.

are super busy in school studying for tests, so they don't have the time and luxury to play social media apps." On the other hand, teen culture in the United States is "a golden audience."<sup>563</sup>

481. Like the other Defendants' platforms, TikTok depends on advertising revenue, which has boomed. TikTok was projected to receive \$11 billion in advertising revenue in 2022, over half of which is expected to come from the United States.<sup>564</sup>

482. The initial iteration of TikTok allowed users to lip sync pop music by celebrities who appealed primarily to teens and tweens (e.g., Selena Gomez and Ariana Grande). It labeled folders with names attractive to youth (e.g., "Disney" and "school"); and included in those folders songs such as "Can You Feel the Love Tonight" from the movie "The Lion King," "You've Got a Friend in Me" from the movie "Toy Story," and other renditions covering school-related subjects or school-themed television shows and movies.<sup>565</sup>

483. ByteDance also specifically and intentionally excluded videos that would not appeal to young Americans, instructing TikTok moderators that videos of "senior people with too many wrinkles" should not be permitted on users' "For You" pages because such content was "much less attractive [and] not worth[] . . . recommend[ing]."<sup>566</sup>

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<sup>563</sup> Paul Mozur, *Chinese Tech Firms Forced to Choose Market: Home or Everywhere Else*, N.Y. Times (Aug. 9, 2016), <https://www.nytimes.com/2016/08/10/technology/china-homegrown-internet-companies-rest-of-the-world.html>.

<sup>564</sup> Jessica Bursztynsky, *TikTok says 1 billion people use the app each month*, CNBC (Sept. 27, 2021), <https://www.cnbc.com/2021/09/27/tiktok-reaches-1-billion-monthly-users.html>; Bhanvi Staija, *TikTok's ad revenue to surpass Twitter and Snapchat combined in 2022*, Reuters (Apr. 11, 2022), <https://www.reuters.com/technology/tiktoks-ad-revenue-surpass-twitter-snapchat-combined-2022-report-2022-04-11/>.

<sup>565</sup> Complaint for Civil Penalties, Permanent Injunction, and Other Equitable Relief ("Musical.ly Complaint") at p. 8, ¶¶ 26–27, *United States v. Musical.ly*, 2:19-cv-01439-ODW-RAO (C.D. Cal. Feb. 27, 2019) Dkt. # 1.

<sup>566</sup> Sam Biddle et al., *Invisible Censorship: TikTok Told Moderators to Suppress Posts by "Ugly" People and the Poor to Attract New Users*, Intercept (Mar. 15, 2020), <https://theintercept.com/2020/03/16/tiktok-app-moderatorsusers-discrimination/>.

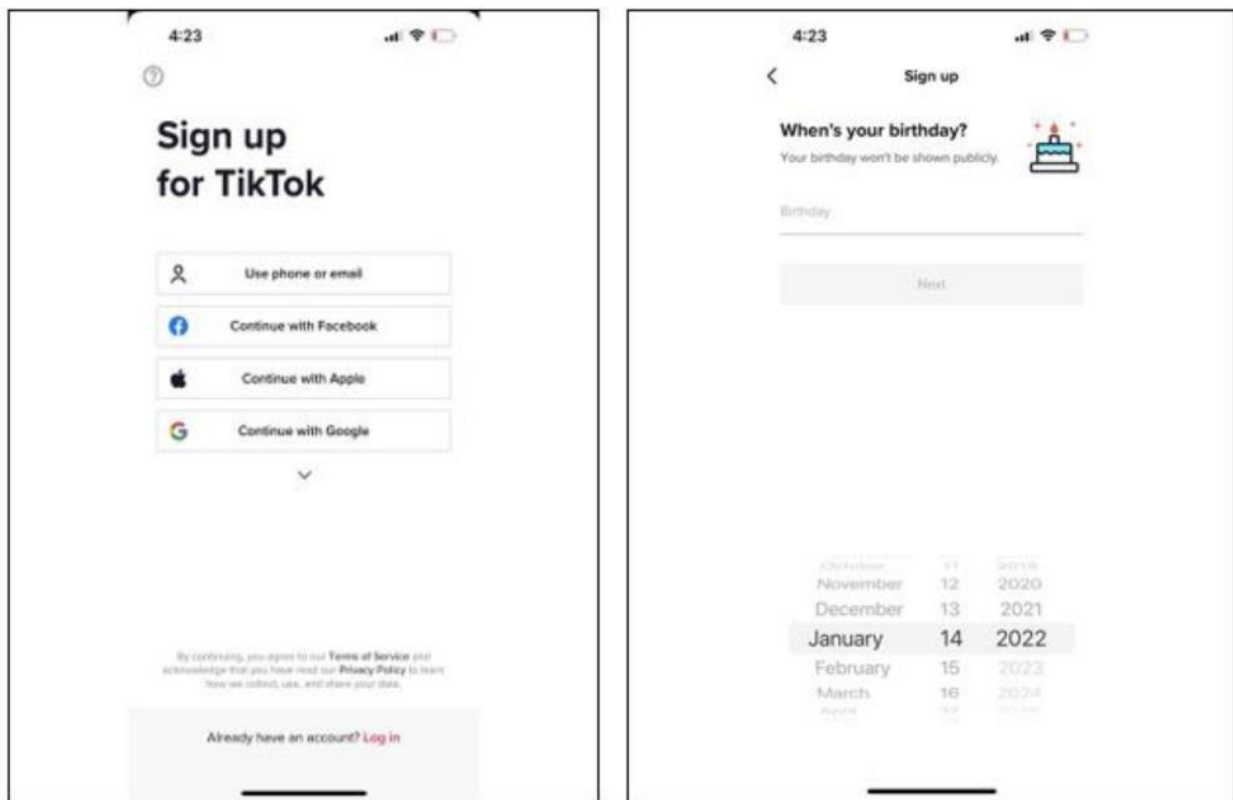
484. Even TikTok’s sign-up process demonstrates that young users are what ByteDance values most. In 2016, the birthdate for those signing up for the app defaulted to the year 2000 (i.e., 16 years old).<sup>567</sup>

**3. ByteDance intentionally designed features to addict children and adolescents.**

485. TikTok’s growth among young Americans has been further enabled by its defective age verification and parental control procedures, which allow children under 13 unfettered access to the app.

**a. TikTok’s age-verification measures are defective.**

486. When a user first opens TikTok, they are prompted to “Login in to TikTok” or “Sign up” for an account using a phone number or email address. TikTok then asks, “When’s your birthday?”



<sup>567</sup> Melia Robinson, *How to Use Musical.ly, The App With 150 million Users That Teens Are Obsessed With*, Bus. Insider (Dec. 7, 2016), <https://www.businessinsider.com/how-to-use-musically-app-2016-12>.

487. ByteDance does not verify the age that TikTok users report. Nor does it use any method to verify that users who acknowledge they are minors have the consent of their parents or legal guardians to use the app. In fact, at least as of 2020, TikTok still had not developed a company position on age verification.

488. ByteDance has designed TikTok so users can circumvent TikTok’s age restrictions by using TikTok without creating an account. TikTok allows users, no matter what age, to “browse as [a] guest,” and watch TikTok’s “For You” page while TikTok’s algorithm collects data about that user and their viewing behavior.<sup>568</sup>

489. ByteDance knows that many U.S. TikTok users under the age of 13 fail to report their birth dates accurately.<sup>569</sup>

490. ByteDance’s Trust and Safety team recognizes that one of the biggest challenges it faces is “determining who is a minor (defined as users 13-17 years old).”

491. In 2019, the FTC acted on this admission and alleged that ByteDance failed to comply with COPPA.<sup>570</sup>

492. TikTok settled the FTC claims, agreeing to a then-record civil COPPA penalty and several forms of injunctive relief intended to protect children who use the app.<sup>571</sup>

493. To comply with the terms of that settlement, ByteDance created “TikTok for Younger Users,” a “limited app experience” for users under the age of 13.<sup>572</sup> “TikTok for Younger Users” does not permit users to “share their videos, comment on others’ videos, message with

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<sup>568</sup> *Browse as Guest*, TikTok Support, <https://support.tiktok.com/en/log-in-troubleshoot/log-in/browse-as-guest>.

<sup>569</sup> Jon Russell, *Musical.ly Defends its Handling of Young Users, As it Races Past 40M MAUs*, TechCrunch (Dec. 6, 2016), <https://techcrunch.com/2016/12/06/musically-techcrunch-disrupt-london/>.

<sup>570</sup> See Musical.ly Complaint, at p. 8, ¶¶ 26–27.

<sup>571</sup> Natasha Singer, *TikTok Broke Privacy Promises, Children’s Groups Say*, NY Times (May 14, 2020), <https://www.nytimes.com/2020/05/14/technology/tiktok-kids-privacy.html#:~:text=TikTok%2C%20the%20popular%20app%20for%20making%20and%20sharing,20%20children%E2%80%99s%20and%20consumer%20groups%20said%20on%20Thursday.>

<sup>572</sup> *TikTok for Younger Users*, TikTok (Dec. 13, 2019), <https://newsroom.tiktok.com/en-us/tiktok-for-younger-users>.



users, or maintain a profile or followers.”<sup>573</sup> However, users can still “experience what TikTok is at its core” by recording and watching videos on TikTok. For that reason, experts state the app is “designed to fuel [kids’] interest in the grown-up version.”<sup>574</sup>

494. Moreover, users under 13 can easily delete their age-restricted accounts and sign up for an over-13 account on the same mobile device—without any restriction or verification—using a fake birthdate.

495. The absence of effective age verification measures also means that adult users claim to be children—with obvious dangers to the children on ByteDance’s app.

**b. TikTok’s parental controls are defective.**

496. Following the FTC settlement, ByteDance created a “Family Pairing” feature on TikTok. The supposed purpose of that feature was to allow parents to link their accounts to their children’s accounts and enforce certain controls (such as screen time limits and restriction of “content that may not be appropriate for all audiences”).<sup>575</sup>

497. “Family Pairing” also is supposed to allow parents to prevent their children from direct messaging other TikTok users. But ByteDance has designed TikTok’s “Family Pairing” feature so that it is not mandatory for minor users. And to use it, a parent or guardian is forced to create their own TikTok account to pair it with their child’s account. Further, the “Family Pairing” feature is available only on the TikTok app. It provides no protection when a child accesses TikTok through a web browser. Because this feature requires parents to know the name of their child’s account to pair it, youth can easily evade the protections of the “Family Pairing” feature by creating anonymous accounts, again without parental approval or knowledge.

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<sup>573</sup> Dami Lee, *TikTok Stops Young Users from Uploading Videos after FTC Settlement*, Verge (Feb. 27, 2019), <https://www.theverge.com/2019/2/27/18243510/tiktok-age-young-user-videos-ftc-settlement-13-childrensprivacy-law>.

<sup>574</sup> Leonard Sax, *Is TikTok Dangerous for Teens?*, Inst. Fam. Stud. (Mar. 29, 2022), <https://ifstudies.org/blog/istiktok-dangerous-for-teens>.

<sup>575</sup> *TikTok Introduces Family Pairing*, TikTok Newsroom (April 15, 2020) <https://newsroom.tiktok.com/en-us/tiktok-introduces-family-pairing>.

498. ByteDance further stymies parents' ability to supervise minors' use of TikTok by permitting minor users to block their parent's profile, post ephemeral videos called "Stories" that disappear after 24 hours, and post those stories to "Friends Only."

499. ByteDance could, but does not, adopt safety features that notify parents when minors are engaging excessively with the app and are using it during sleeping hours.

500. Until January 13, 2021, ByteDance interfered with parental supervision and endangered children by defaulting all accounts, including those registered to children as young as 13, to "public." That allowed strangers to contact minor users regardless of age or location. ByteDance also intentionally and actively promoted these types of connections by suggesting accounts to follow through the "Find Friends" or "People You May Know" features.

501. Today, for users 16 and over, ByteDance still sets the default privacy setting for all registered accounts to "public," meaning that anyone can view a user's profile, on or off TikTok, request the user as a friend, or engage with the user's content.<sup>576</sup>

**c. ByteDance intentionally designed TikTok's defective features and algorithms to maximize engagement using automatic content, time-limited experiences, intermittent variable rewards, reciprocity, and ephemeral content.**

502. Like each of the other Defendants, ByteDance has designed and coded TikTok with features that foster addictive and compulsive use by youth, leading to a cascade of additional mental and physical injuries for those youth and resultant harms to their communities.

503. One of TikTok's defining features is its "For You" page (or "FYP"). According to ByteDance, it is "central to the TikTok experience and where most of our users spend their time."<sup>577</sup>

504. TikTok's FYP uses ByteDance's powerful machine-learning algorithms to select content to feed users to maximize their engagement and thereby serve ByteDance's interests—as

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<sup>576</sup> See, e.g., Lauren E. Sherman et al., *The Power of the Like in Adolescence: Effects of Peer Influence on Neural and Behavioral Responses to Social Media*, 27(7) Psych. Sci. 1027–35 (July 2016), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5387999>.

<sup>577</sup> *How TikTok recommends videos #ForYou*, TikTok (June 18, 2020), <https://newsroom.tiktok.com/en-us/howtiktok-recommends-videos-for-you>.

opposed to simply responding to searches by users. As one industry commentator explained, TikTok uses “a machine-learning system that analyzes each video and tracks user behavior so that it can serve up a continually refined, never-ending stream of TikToks optimized to hold [users’] attention.”<sup>578</sup> As another commentator put it, “you don’t tell TikTok what you want to see. It tells you.”<sup>579</sup>

505. Zhu has remarked that, “[e]ven if you have tens of millions of users, you have to keep them always engaged.”<sup>580</sup> Thus, according to Zhu, TikTok’s algorithms are “focused primarily on increasing the engagement of existing users.”<sup>581</sup>

506. An internal document titled “TikTok Algo 101,” which TikTok has confirmed is authentic, “explains frankly that in the pursuit of the company’s ‘ultimate goal’ of adding daily active users, it has chosen to optimize for two closely related metrics in the stream of videos it serves: ‘retention’—that is, whether a user comes back—and ‘time spent.’”<sup>582</sup>

507. “This system means that watch time is key,” explained Guillaume Chaslot, the founder of Algo Transparency.<sup>583</sup> Chaslot noted that “rather than giving [people] what they really want,” TikTok’s “algorithm tries to get people addicted[.]”<sup>584</sup>

508. To fulfill this goal, the TikTok algorithm responds to a user’s time spent watching and engaging with a video by feeding them similar content.<sup>585</sup> As TikTok describes it, the

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<sup>578</sup> Jia Tolentino, *How TikTok Holds Our Attention*, New Yorker (Sept. 30, 2019), <https://www.newyorker.com/magazine/2019/09/30/how-tiktok-holds-our-attention>.

<sup>579</sup> Drew Harwell, *How TikTok Ate the Internet*, Wash. Post. (Oct. 14, 2022), <https://www.theday.com/business/20221015/how-tiktok-ate-the-internet/>.

<sup>580</sup> Biz Carson, *How a Failed Education Startup Turned Musical.ly, the Most Popular App You’ve Probably Never Heard Of*, Business Insider (May 28, 2016), <https://www.businessinsider.com/what-is-musically-2016-5> (emphasis added).

<sup>581</sup> Joseph Steinberg, *Meet Musical.ly, the Video Social Network Quickly Capturing the Tween and Teen Markets*, Inc. (June 2, 2016), <https://www.inc.com/joseph-steinberg/meet-musically-the-video-social-network-quicklycapturing-the-tween-and-teen-m.html>.

<sup>582</sup> Ben Smith, *How TikTok Reads Your Mind*, N.Y. Times (Dec. 5, 2021), <https://www.nytimes.com/2021/12/05/business/media/tiktok-algorithm.html>.

<sup>583</sup> *Id.*

<sup>584</sup> *Id.*

<sup>585</sup> Kaitlyn Tiffany, *I’m Scared of the Person TikTok Thinks I Am*, The Atlantic (June 21, 2021), <https://www.theatlantic.com/technology/archive/2021/06/your-tiktok-feed-embarrassing/619257/>.

algorithms populate each user's FYP feed by "ranking videos based on a combination of factors" that include, among others, any interests expressed when a user registers a new account, videos a user likes, accounts they follow, hashtags, captions, sounds in a video they watch, certain device settings, such as their language preferences and where they are located, and finally the likelihood of the user's interest.<sup>586</sup>

509. ByteDance has designed TikTok's algorithm so that certain factors, such as time spent watching a video, are more important to the algorithm than others. For example, TikTok explains that, "whether a user finishes watching a longer video from beginning to end, would receive greater weight than . . . whether the video's viewer and creator are both in the same country."<sup>587</sup>

510. TikTok's algorithms are designed to begin working the minute a user opens the app. The FYP shows the user a single, full-screen stream of videos, then records how the user reacts. "A second of viewing or hesitation indicates interest; a swipe suggests a desire for something else."<sup>588</sup> With each data point collected, TikTok's algorithm winnows a mass of content to a single feed, continually refined to keep users engaging often and at length.

511. This algorithmic encouragement of continuous scrolling and interaction makes it hard for users to disengage from the app. A recent ByteDance-funded study, which imaged the brains of TikTok and other social media users, found that those using TikTok engaged with the app about 10 times a minute, twice as often as with peer apps.<sup>589</sup>

512. ByteDance leverages users' inability to disengage as a benefit to attract advertisers, rather than taking steps to address the addictive nature of TikTok. A recent TikTok marketing

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<sup>586</sup> *Investigation: How TikTok's Algorithm Figures Out Your Deepest Desires*, Wall St. J. (Jul. 21, 2021), <https://www.wsj.com/video/series/inside-tiktoks-highly-secretive-algorithm/investigation-how-tiktok-algorithm-figures-out-your-deepest-desires/6C0C2040-FF25-4827-8528-2BD6612E3796>; see also *How TikTok recommends videos #ForYou / TikTok Newsroom*, <https://newsroom.tiktok.com/en-us/how-tiktok-recommends-videos-for-you>.

<sup>587</sup> *Id.*

<sup>588</sup> *Id.*

<sup>589</sup> *TikTok Ads Break Through Better Than Tv and Drive Greater Audience Engagement*, TikTok, <https://www.tiktok.com/business/library/TikTokDrivesGreaterAudienceEngagement.pdf>.

document observed that “the TikTok audience is fully leaned in.”<sup>590</sup> Marketing research commissioned by TikTok found that compared to other social media sites, TikTok users evidenced a higher frequency of engagement per minute of use. TikTok boasted, “[o]ur algorithm and shorter video formats create continuous cycles of engagement, making TikTok the leading platform for Information Density.”<sup>591</sup>

513. ByteDance also creates images and GIFs for users to incorporate into TikTok videos to keep users returning to the app. And ByteDance has acquired publishing rights to thousands of hours of music and video, which it provides its users to attach to the videos and pictures they post on TikTok.

514. TikTok’s powerful machine-learning algorithms dictate the content of each user’s FYP. An estimated 90-95% of the content viewed on TikTok comes from its algorithms (as opposed to user selection), the highest among Defendants’ platforms.<sup>592</sup>

515. The algorithm encourages use of TikTok, regardless of whether that use is enjoyable or healthy. From TikTok’s perspective, it doesn’t matter whether you’re engaging with a video because you’re horrified or angry or upset—the engagement itself is the end goal.

516. As the algorithm continues to refine what users see, they are “more likely to encounter harmful content.”<sup>593</sup> Indeed, TikTok’s quest to monopolize user attention often forces users down “rabbit holes” of harmful content. Users end up in these rabbit holes, and become trapped in them, because TikTok has optimized its algorithm’s design for retention and time spent on the app.<sup>594</sup>

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<sup>590</sup> *TikTok Ads Break Through Better Than Tv and Drive Greater Audience Engagement*, TikTok, <https://www.tiktok.com/business/library/TikTokDrivesGreaterAudienceEngagement.pdf>.

<sup>591</sup> *Id.*

<sup>592</sup> *Investigation: How TikTok’s Algorithm Figures Out Your Deepest Desires*, Wall St. J. (Jul. 21, 2021), <https://www.wsj.com/video/series/inside-tiktoks-highly-secretive-algorithm/investigation-how-tiktok-algorithm-figures-out-your-deepest-desires/6C0C2040-FF25-4827-8528-2BD6612E3796>.

<sup>593</sup> *Inside TikTok’s Algorithm: A WSJ Video Investigation*, Wall St. J. (July 21, 2021), <https://www.wsj.com/articles/tiktok-algorithm-video-investigation-11626877477>.

<sup>594</sup> Ben Smith, *How TikTok Reads Your Mind*, N.Y. Times (Dec. 5, 2021), <https://www.nytimes.com/2021/12/05/business/media/tiktok-algorithm.html>.

TikTok wants to keep users coming back as often as possible for as long as possible.<sup>421</sup> Once users are in a rabbit hole, it is extremely difficult to climb out. One user was shown a few anti-vaccination conspiracy theory videos on his FYP and commented on them in an attempt to refute the videos' claims. His feed was quickly overtaken with similar videos, and it took him months of intentional interaction with the app to purge this content from his FYP.<sup>595</sup> In general, escaping a rabbit hole requires a user to repeatedly and actively strategize ways to counter the algorithm, pitting individual users' David against TikTok's machine-learning Goliath.

517. Internally, concerns have been raised about TikTok's recommendation engine since at least 2020.<sup>596</sup> A former ad sales manager, who joined TikTok's German office at the age of 18, warned his superiors the algorithm was "sending Generation Z users endless stream of depressing and suicide-glorifying videos."<sup>597</sup> Using his own feed to find videos he forwarded to the trust and safety team for assistance, he was soon unable to show potential ad purchasers his own account when asked for a demonstration of how the app worked due to the graphic nature of videos that proliferated on his feed.<sup>598</sup>

518. The *Wall Street Journal* documented the pernicious operation of ByteDance's algorithms, as shown by a recent experiment. The experimenters used bots, each programmed with various interests such as sports, forestry, dance, astrology, and animals. They did not disclose these interests upon registration with TikTok. Instead, TikTok's algorithm quickly learned the assigned interests from the bots' behavior—that is, "by rewatching or pausing on videos" related to the bot's programmed interest.<sup>599</sup>

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<sup>595</sup> Kaitlyn Tiffany, *I'm Scared of the Person TikTok Thinks I Am*, The Atlantic (June 21, 2021), <https://www.theatlantic.com/technology/archive/2021/06/your-tiktok-feed-embarrassing/619257/>.

<sup>596</sup> Olivia Carville, TikTok's Algorithm Keeps Pushing Suicide to Vulnerable Kids, Bloomberg (April 20, 2023), <https://www.bloomberg.com/news/features/2023-04-20/tiktok-effects-on-mental-health-in-focus-after-teen-suicide>.

<sup>597</sup> *Id.*

<sup>598</sup> *Id.*

<sup>599</sup> *Inside TikTok's Algorithm: A WSJ Video Investigation*, Wall St. J. (July 21, 2021), <https://www.wsj.com/articles/tiktok-algorithm-video-investigation-11626877477>.

519. One bot watched 224 videos in 26 minutes, lingering over videos with hashtags for “depression” or “sad.” The algorithm quickly refined its output. Afterward, 93% of the videos TikTok showed that bot were about depression or sadness. One post implored the bot to: “Just go. Leave. Stop trying. Stop pretending. You know it and so do they. Do Everyone a favor and leave.”<sup>600</sup>

520. ByteDance’s choices about how to design and structure its app—including choosing not to implement effective age gating and parental controls, in addition to choosing to design algorithms to maximize engagement through pushing extreme and outrageous content—go far beyond benignly organizing the content of others. Instead, they create an environment and experience suited to ByteDance’s goal of maximizing ad revenues—an environment and experience that is unreasonably dangerous to the children and teens ByteDance targets.

521. In a follow-up experiment by the Wall Street Journal, bots were registered as users between 13 and 15 years-old. One of those bots, programmed to pause on videos referencing drugs, lingered briefly on “a video of a young woman walking through the woods with a caption” referring to “stoner girls.” The next day, the algorithm showed the bot a video about a “marijuana-themed cake.” Then, the “majority of the next thousand videos” that TikTok’s algorithm produced “tout[ed] drugs and drug use,” including marijuana, psychedelics, and prescription drugs.<sup>601</sup>

522. The algorithm sank another bot—registered as a 13-year-old boy—down a rabbit hole of videos related to bondage and sex, including videos explaining, among other things, “how to tie knots for sex, recover from violent sex acts and discussing fantasies about rape.”<sup>602</sup> The bot simply searched for the term “onlyfans”—a site known for hosting adult entertainment—and watched a handful of videos in the results before returning to the FYP.<sup>603</sup> The algorithm subsequently bombarded the bot with videos about sex and, as the bot lingered on those videos,

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<sup>600</sup> *Inside TikTok’s Algorithm: A WSJ Video Investigation*, Wall St. J. (July 21, 2021), <https://www.wsj.com/articles/tiktok-algorithm-video-investigation-11626877477>.

<sup>601</sup> Rob Barry et al., *How TikTok Serves Up Sex and Drug Videos to Minors*, Wall St. J. (Sept. 8, 2021), <https://www.wsj.com/articles/tiktok-algorithm-sex-drugs-minors-11631052944>.

<sup>602</sup> *Id.*

<sup>603</sup> *Id.*



the bot’s feed became almost entirely dominated by sex-related videos. At one point, “more than 90 percent of [the] account’s video feed was about bondage and sex.”<sup>604</sup>

523. The Wall Street Journal concluded “that through its powerful algorithms, TikTok can quickly drive minors—among the biggest users of the app—into endless spools of content about sex and drugs.”<sup>605</sup> In another follow-up experiment, the Wall Street Journal found that once TikTok’s algorithm determined that the bots would rewatch videos related to weight loss, it “speedily began serving more, until weight-loss and fitness content made up more than half their feeds—even if the bot never sought it out.”<sup>606</sup>

524. Indeed, TikTok’s algorithm recommended over 32,000 weight-loss videos over a two-month period, “many promoting fasting, offering tips for quickly burning belly fat and pushing weight-loss detox programs and participation in extreme weight-loss competitions.”<sup>607</sup>

525. Alyssa Moukheiber, a treatment center dietitian, explained that TikTok’s algorithm can push children into unhealthy behaviors or trigger a relapse of disordered eating.<sup>608</sup> Indeed, several teenage girls interviewed by the Wall Street Journal reported developing eating disorders or relapsing after being influenced by extreme diet videos TikTok promoted to them.<sup>609</sup>

526. Their experiences are not unique. Katie Bell, a co-founder of the Healthy Teen Project, explained that “the majority of her 17 teenage residential patients told her TikTok played a role in their eating disorders.”<sup>610</sup>

527. Others, like Stephanie Zerwas, an Associate Professor of Psychiatry at the University of North Carolina at Chapel Hill, could not even recount how many of her young patients told her that “I’ve started falling down this rabbit hole, or I got really into this or that

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<sup>604</sup> Rob Barry et al., *How TikTok Serves Up Sex and Drug Videos to Minors*, Wall St. J. (Sept. 8, 2021), <https://www.wsj.com/articles/tiktok-algorithm-sex-drugs-minors-11631052944>.

<sup>605</sup> *Id.*

<sup>606</sup> Tawnell D. Hobbs, *‘The Corpse Bride Diet’: How TikTok Inundates Teens With Eating-Disorder Videos*, Wall St. J. (Dec. 17, 2021), <https://www.wsj.com/articles/how-tiktok-inundates-teens-with-eating-disorder-videos-11639754848>.

<sup>607</sup> *Id.*

<sup>608</sup> *Id.*

<sup>609</sup> *Id.*

<sup>610</sup> *Id.*

influencer on TikTok, and then it started to feel like eating-disorder behavior was normal, that everybody was doing that.”<sup>611</sup>

528. In December 2022, the Center for Countering Digital Hate (“CCDH”) conducted a similar study, creating TikTok accounts with a registered age of 13 in the United States, United Kingdom, Canada, and Australia.<sup>612</sup> For the first 30 minutes on the app, the accounts paused briefly on videos about body image and mental health and liked them. “Where researchers identified a recommended video matching one of the below categories, they viewed the video for 10 seconds and liked it. For all other videos, researchers would immediately scroll the For You feed to view the next video recommended by TikTok.”<sup>613</sup> TikTok’s algorithm seized on this information and within minutes began recommending content about eating disorders and self-harm.

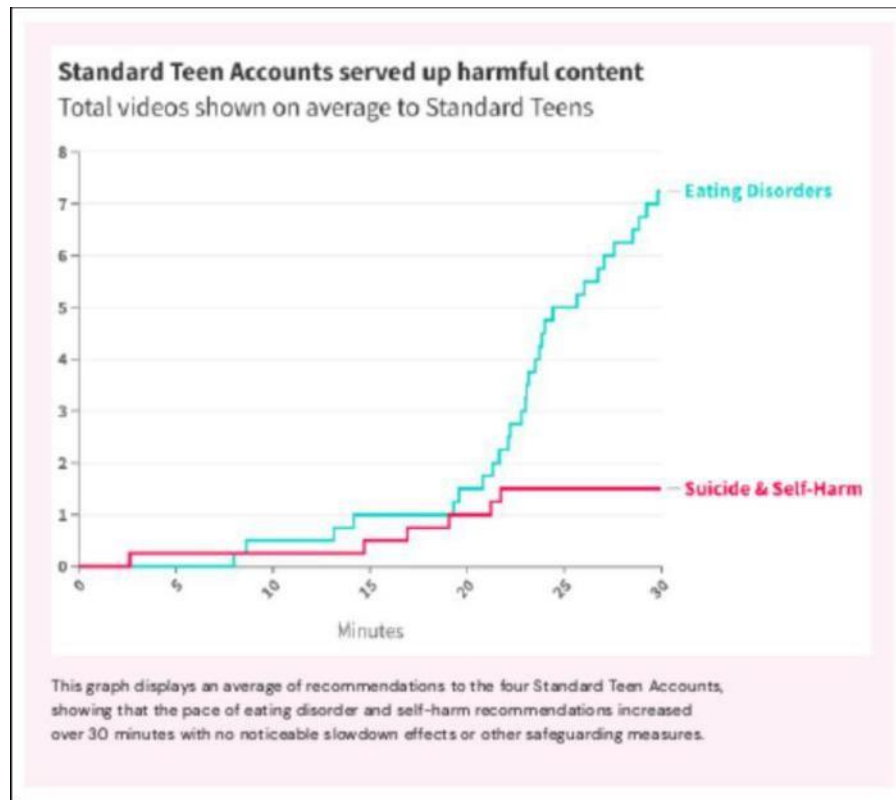
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<sup>611</sup> Tawnell D. Hobbs, *‘The Corpse Bride Diet’: How TikTok Inundates Teens With Eating-Disorder Videos*, Wall St. J. (Dec. 17, 2021), <https://www.wsj.com/articles/how-tiktok-inundates-teens-with-eating-disorder-videos-11639754848>.

<sup>612</sup> *Deadly by Design*, Center for Countering Digital Hate (Dec. 2022), <https://counterhate.com/wp-content/uploads/2022/12/CCDH-Deadly-by-Design 120922.pdf>.

<sup>613</sup> *Deadly by Design*, Center for Countering Digital Hate (Dec. 2022), <https://counterhate.com/wp-content/uploads/2022/12/CCDH-Deadly-by-Design 120922.pdf>.

529. The CCDH report further illustrated TikTok’s algorithms at work, noting that, for an account that liked content about body image and mental health, the algorithm recommended similar content every 39 seconds. As the 30 minutes went on, TikTok recommended more videos related to eating disorders, suicide, and self-harm, as the graph below shows.

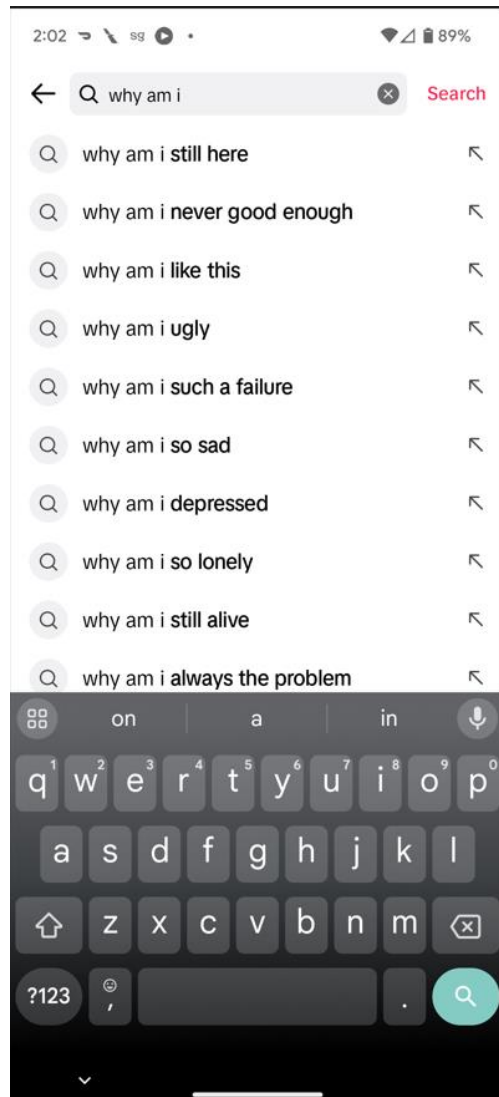


530. TikTok’s rabbit holes are particularly problematic for young people, who lack the necessary impulse control to stop watching. The more the user engages by viewing or hesitating on a particular piece of content, the more TikTok’s algorithms learn about the user. ByteDance uses this feature to exploit the vulnerabilities of children and teenagers, and addict them to TikTok.

531. Indeed, ByteDance admits that its recommendation algorithm creates a “risk of presenting an increasingly homogeneous stream of videos.”<sup>614</sup> As the above-referenced studies and experiments demonstrate, that homogeneous stream often includes harmful content, including posts about depression, self-harm, drugs, and extreme diets.

<sup>614</sup> *How TikTok recommends videos #ForYou*, TikTok (June 18, 2020), <https://newsroom.tiktok.com/en-us/howtiktok-recommends-videos-for-you>.

532. TikTok’s algorithm goes so far as to complete young users’ thoughts in the most upsetting way imaginable. Here is how its algorithm suggested completing a search beginning with “Why am I...” – on an account identified as belonging to a fourteen-year-old girl:



533. Rather than preventing children from falling down these harmful rabbit holes or encountering harmful content, ByteDance ignores its own responsibility for putting kids in harm’s way, insisting “[i]t is not TikTok’s place to decide for people what is or is not ‘appropriate’ for them or their teens.”<sup>615</sup>

<sup>615</sup> TIKTOK3047MDL-001-00060817.

534. ByteDance uses a series of interrelated design features that exploit known mental processes to induce TikTok’s users to use the platform more frequently, for more extended periods, and with more intensity (i.e., providing more comments and likes). ByteDance knows or should have known that children, whose brains are still developing, are particularly susceptible to these addictive features.

535. TikTok is defective in part because ByteDance designed the app so users cannot disable the auto-play function on the FYP.<sup>616</sup> As noted above, when a user opens the TikTok app or visits the TikTok website, it immediately begins playing a video on the user’s FYP. The user may request more videos with a simple upward swipe, and TikTok will deliver a seemingly endless content stream. If a user does not proceed from a video, it continues to play on an endless loop. The ability to scroll continuously induces a “flow-state” and distorts users’ sense of time.

536. The TikTok app interface is designed with only a limited number of buttons and sections of the app for users to navigate, such that the design does not impede “flow.”

537. The FYP also leverages principles of IVR to encourage compulsive usage, in the same fashion as Instagram Reels. A user swipes to receive the next video, and each swipe offers the prospect (but not the certainty) of dopamine-releasing stimuli.

538. The cumulative effect of these features is addictive, compulsive engagement. As researchers at the Brown University School of Public Health explained, “the infinite scroll and variable reward pattern of TikTok likely increase the addictive quality of the app as they may induce a flow-like state for users that is characterized by a high degree of focus and productivity at the task at hand.”<sup>617</sup>

539. Dr. Julie Albright, a Professor at the University of Southern California, similarly explained that TikTok is so popular because users will “just be in this pleasurable dopamine state,

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<sup>616</sup> 2 *Best Ways You Can Turn off TikTok Autoplay*, Globe Calls (Dec. 16, 2022), <https://globecalls.com/2-best-ways-you-can-turn-off-tiktok-autoplay/>.

<sup>617</sup> Sophia Petrillo, *What Makes TikTok So Addictive? An Analysis of the Mechanisms Underlying the World’s Latest Social Media Craze*, Brown Undergraduate J. of Pub. Health (Dec. 13, 2021), <https://sites.brown.edu/publichealthjournal/2021/12/13/tiktok/>.

carried away. It's almost hypnotic, you'll keep watching and watching." Users "keep scrolling," according to Dr. Albright, "because sometimes you see something you like, and sometimes you don't. And that differentiation—very similar to a slot machine in Vegas—is key."<sup>618</sup>

540. Aza Raskin, the engineer who designed infinite scroll, described the feature as being "as if [social media companies are] taking behavioral cocaine and just sprinkling it all over your interface, and that's the thing that keeps you coming back and back and back." Because the infinite scroll does not "give your brain time to catch up with your impulses . . . you just keep scrolling."<sup>619</sup>

541. To reinforce this addictive experience, ByteDance intentionally omits the concept of time from their app, stripping information such as when a user uploaded a video from its endless stream of content. In the FYP, there is no way to discern how long ago the video was posted, or when the user who posted the video joined TikTok.

542. On at least some phones, TikTok is designed to cover the clock displayed at the top of user's iPhones, preventing them from keeping track of the time spent on TikTok.<sup>620</sup>

543. ByteDance has designed the app so that users can see, however, how many times a video was liked, commented on, or shared. So, the only thing users can quantify within the app is the approval or disapproval of others.

544. In June 2022, after receiving public criticism regarding TikTok's effects on people's mental health, ByteDance introduced various tools to purportedly encourage users to take a break from infinite scrolling, such as a "Take a Break" reminder and time-limit caps. ByteDance could but does not activate these tools by default. Even for minors, once they have exceeded 100 minutes of usage a day, TikTok only "reminds" them that these "Take a Break" tools exist upon opening the app, but does not automatically activate them by default.

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<sup>618</sup> John Koetsier, *Digital Crack Cocaine: The Science Behind TikTok's Success*, Forbes (Jan. 18, 2020), <https://www.forbes.com/sites/johnkoetsier/2020/01/18/digital-crack-cocaine-the-science-behind-tiktoks-success/?sh=765d1b4178be>.

<sup>619</sup> *Id.*

<sup>620</sup> Louise Matsakis, *On TikTok, There is No Time*, Wired (October 3, 2019), <https://www.wired.com/story/tiktok-time/>.

545. In addition to the defective infinite scroll, ByteDance has designed TikTok with other design features that exploit social psychological impulses to induce children to use TikTok daily and for extended periods of time, adding to its addictive nature.

546. Several TikTok features actively encourage users to generate ephemeral photos and videos. This defect promotes compulsive use, because users risk missing the content posted by their friends and others if they do not check TikTok at least daily.

547. A TikTok user can, for example, post expiring “Stories,” short videos that disappear after 24 hours. These videos do not otherwise appear in a user’s feed. TikTok’s live stream feature is similar.<sup>621</sup>

548. A relatively new feature, “TikTok Now,” pushes daily notifications to users to share “authentic, real-time images or 10-second videos at the same time as your friends.”<sup>622</sup> ByteDance designed this feature so that once a user gets the notification, the user has three minutes to post an image or video. That user cannot view friends’ “TikTok Now” posts without sharing one of their own, and posts submitted outside of the three-minute window are marked as “late.” TikTok preserves a user’s history in a calendar view, adding to the pressure to visit the app daily and when notified by TikTok to do so. ByteDance designed these defective features to increase responsiveness to notifications and keep young users locked into the app, as they do not want to miss out on this perceived social activity.

549. Like “Snap Streaks,” “TikTok Now” does not enhance the communication function of the app, but simply exploits young users’ susceptibility to persuasive design, teenage social anxiety, and FOMO. ByteDance’s insidious design of “TikTok Now” also employs point scoring and competition with others to drive frequent and continuous engagement by children, who otherwise risk checking in late and alienating other peers participating in the exchange.

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<sup>621</sup> Hilary Anderson, *Social media apps are ‘deliberately addictive to users*, BBC (July 4, 2018), <https://www.bbc.com/news/technology-44640959>.

<sup>622</sup> *TikTok Now*, TikTok, <https://www.tiktok.com/creators/creator-portal/product-feature-updates/tiktok-now>.



550. Like the other Defendants' apps, ByteDance designed TikTok to leverage the principle of IVR by encouraging users to like, share, or reshare videos that others have created or posted. Receiving a "Like" or "Reshare" indicates that others approve of that user's content and satisfies their natural, developmentally predictable desire for acceptance. As discussed above, "Likes" activate the reward region of the brain and release dopamine to create a positive feedback loop.<sup>623</sup> Users return to TikTok again and again, hoping for yet another pleasurable experience.<sup>624</sup>

551. ByteDance also designed TikTok to use reciprocity to manipulate users into using the app. One example is the "Duet" feature, which allows users to post a video side-by-side with a video from another TikTok user. Users utilize "Duet" to react to the videos of TikTok content creators. ByteDance intends the response to engender a reciprocal response from the creator of the original video, inducing them to return to the app.

552. Another "core feature" of TikTok that ByteDance has pursued are "challenges," which are campaigns that compel users to create and post in TikTok certain types of videos, such as performing a dance routine or a dangerous prank. By fostering competition and the social rewards of posting a challenge video, ByteDance incentivizes users to engage with the app continuously.

553. Harmful and dangerous interactions are a foreseeable consequence of TikTok's engagement-maximization design. For example, numerous minor users have injured themselves or others participating in viral pranks to obtain rewards and increase the number of likes, views, and followers.

554. One such viral prank, "the Benadryl challenge," features a user filming themselves taking large quantities of Benadryl to cause hallucinations or induce an altered mental state. Other similar viral challenges include the "NyQuil Challenge," in which young people are encouraged to

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<sup>623</sup> Rasan Burhan & Jalal Moradzadeh, *Neurotransmitter Dopamine (DA) and its Role in the Development of Social Media Addiction*, 11(7) J. Neurology & Neurophysiology 507 (2020), <https://www.iomcworld.org/openaccess/neurotransmitter-dopamine-da-and-its-role-in-the-development-of-social-media-addiction.pdf>.

<sup>624</sup> *Id.*

eat chicken cooked in NyQuil; the “Milk Crate Challenge,” where adolescents climb atop a stack of milk crates and jump off; the “Penny Challenge,” where young users are encouraged to plug a charger halfway into an outlet while holding a penny against the exposed prongs; and the “Blackout Challenge” where youth are encouraged to make themselves faint by holding their breath and constricting their chest muscles or restricting airflow with a ligature around their neck.

555. TikTok challenges have led to serious health complications, seizures, and death, with at least 12 children in the United States dying from the TikTok Blackout Challenge alone.<sup>625</sup>

556. As more users engage with a challenge video, the creator of the video is awarded increased “Likes,” views, and followers. TikTok’s reward features thus incentivize this dangerous behavior, resulting too often in physical harm or humiliation in the obsessive pursuit of social significance.<sup>626</sup>

557. Nevertheless, ByteDance encourages businesses to create challenges as a form of marketing, explaining that challenges are “geared towards building awareness and engagement,” and “research shows that they can deliver strong results” and increased return on ad spending “at every stage of the funnel.”<sup>627</sup> While ByteDance extolls the revenue potential from challenges, young users continue to face new and serious harms as the challenges’ stakes grow even more extreme and dangerous.

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<sup>625</sup> Quinn Nguyen, *Don’t let your kids try these 9 dangerous TikTok trends!* <https://cyberpurify.com/knowledge/9-dangerous-tiktok-trends/>; Olivia Carville, *TikTok’s Viral Challenges Keep Luring Young Kids to Their Deaths*, *Bloomberg* (Nov. 30, 2022) <https://www.bloomberg.com/news/features/2022-11-30/is-tiktok-responsible-if-kids-die-doing-dangerous-viral-challenges>.

<sup>626</sup> See TIKTOK3047MDL-001-00000813 (“The algorithm is designed to surface viral content, regardless of its source.”).

<sup>627</sup> *Branded Hashtag Challenge: Harness the Power of Participation*, TikTok for Business (Mar. 16, 2022), <https://www.tiktok.com/business/en-US/blog/branded-hashtag-challenge-harness-the-power-of-participation>.

**d. ByteDance's defective features include impediments to discontinuing use.**

558. Even if a user escapes the addictiveness of TikTok's design and decides to delete their account, ByteDance makes doing so a lengthy and complex undertaking. The deletion process is defectively designed to encourage users to retain their accounts, even if their stated reason for deletion is that the app is endangering their safety or health.

559. When a user selects the "Deactivate or delete account" in the "Account" section of the TikTok app, the user is presented an option: "Delete or deactivate?" Deactivating an account will preserve the user's data, but hide it from the app; deleting, on the other hand, will permanently delete all data associated with the account.

560. However, ByteDance designed TikTok so that deletion is not immediate. The data and account are preserved for 30 days, during which time the user can reactivate their account.

561. If a user selects the "Delete account permanently" option, the user is asked "Why are you leaving TikTok?" The user must select from the following list: (1) I'm leaving temporarily; (2) I'm on TikTok too much; (3) Safety or privacy concerns; (4) Too many irrelevant ads; (5) Trouble getting started; (6) I have multiple accounts; or (7) Another reason.

562. If a user selects "I'm on TikTok too much," ByteDance makes a last-ditch effort to retain the user by reminding the user that a limit can be set on the user's watch time. If a user selects "Safety or privacy concerns," the user is provided a list of resources to "secure" the account. If the user selects "Another reason," a written explanation must be provided. The only option that does not provide or require further information is "I have multiple accounts." ByteDance isn't worried about users deleting merely one account if they already have multiple others.

563. Once a user selects a reason for deletion, the next screen prompts the user to download their TikTok data.

564. Before the user continues the deletion, TikTok requires the user to check a box at the bottom of the screen that says, "[b]y continuing, you reviewed your data request and wish to continue deleting your account." This contrasts with the process of a user "agreeing" to the Terms

of Service and Privacy Policy during the registration process, which does not require a separate confirmation.

565. Once the user confirms a desire to continue with the deletion process, TikTok takes the user to yet another screen, which yet again asks whether the user wants to “delete this account?” The text also explains that the account will be deactivated for 30 days, during which the user may reactivate the account, and after 30 days, the account and data associated with it will be permanently deleted. It goes on to warn that if a user deletes the account, the user will no longer be able to do many things in the app.

566. Once a user again confirms that they want to delete their account, TikTok requires validation with a 6-digit code sent to the telephone number or email address associated with the account. Only after the user receives and enters the code may they finally “delete” their account (after waiting 30 days).

567. ByteDance’s account deletion process is inadequate for children attempting to escape its addictive and harmful app. Requiring a child to go through multiple steps, and offering alternatives, as well as a list of things they are giving up, is designed to convince them to change their mind. Moreover, requiring the user to maintain a deactivated account for 30 days, rather than deleting it on demand, increases the chance that an addicted user will relapse and return to the app.

568. ByteDance’s intentionally cumbersome and defective deletion process prioritizes the retention of young users, and ad revenue that they generate, over their well-being.

**e. ByteDance’s defective features inflict impossible image standards and encourage negative appearance comparison**

569. ByteDance designed TikTok with image-altering filters that harm users. These filters allow children to artificially change their appearance, for example by lightening their skin and eyes, giving them glowing tan skin, or giving them larger lips or fluttering eyelashes.

570. Young people often then compare the filtered images to their real-life appearance, developing a negative self-image based on unrealistic, artificial images.<sup>628</sup> Many young girls use image-altering filters every day, harming their mental health. And those filters subconsciously make girls feel imperfect and ugly, “reduc[ing] their self-compassion and tolerance for their own physical flaws.”<sup>629</sup>

571. In early 2023, TikTok released an advanced AI-powered filter, “Bold Glamour,” that further blurs the line between reality and fiction by altering facial features in a way that is nearly unrecognizable as a filtered image instead of simply layering a digital overlay onto an image.<sup>630</sup> According to Renee Engeln, Director of the Body and Media Lab at Northwestern University, this blurring between reality and fiction can have a lasting effect on one’s sense of self.<sup>631</sup>

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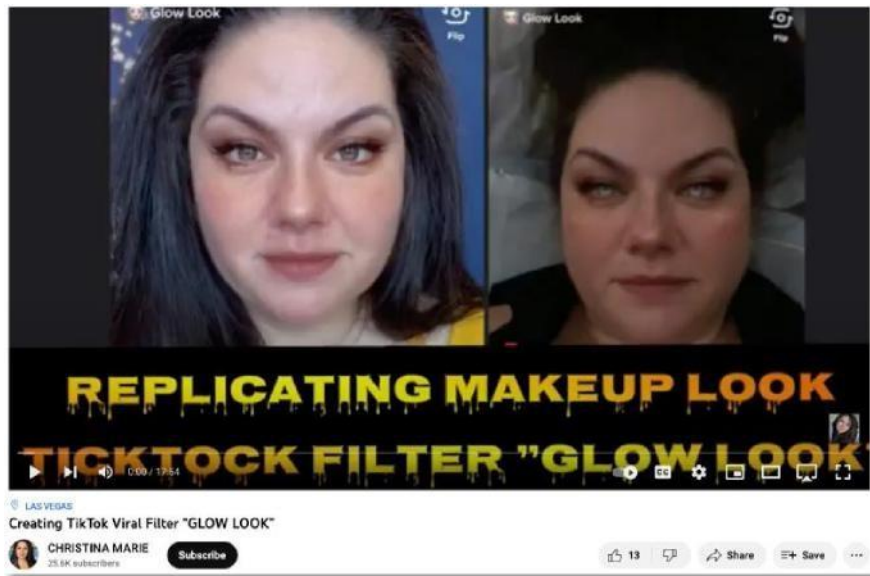
<sup>628</sup> Anna Haines, *From ‘Instagram Face’ To ‘Snapchat Dysmorphia’: How Beauty Filters Are Changing The Way We See Ourselves*, Forbes (Apr. 27, 2021 at 1:19 PM EDT), <https://www.forbes.com/sites/annahaines/2021/04/27/from-instagram-face-to-snapchat-dysmorphia-how-beauty-filters-are-changing-the-way-we-see-ourselves/?sh=3c32eb144eff>.

<sup>629</sup> Anna Haines, *From ‘Instagram Face’ To ‘Snapchat Dysmorphia’: How Beauty Filters Are Changing The Way We See Ourselves*, Forbes (Apr. 27, 2021 at 1:19 PM EDT), <https://www.forbes.com/sites/annahaines/2021/04/27/from-instagram-face-to-snapchat-dysmorphia-how-beauty-filters-are-changing-the-way-we-see-ourselves/?sh=3c32eb144eff>.

<sup>630</sup> Bobby Allyn, A new AI-powered TikTok filter is sparking concern, All Things Considered, NPR (March 8, 2023), <https://www.npr.org/2023/03/08/1162022249/a-new-ai-powered-tiktok-filter-is-sparking-concern>.

<sup>631</sup> *Id.*

572. So compelling is the desire to resemble more closely the filtered ideal that there are online tutorials explaining how to recreate certain filters using makeup.



573. Children’s idealization of their filtered image is externally reinforced when the filtered images receive more likes, comments, and other interaction. Young people also compare these interaction “scores” to those of friends and celebrities who use filters, reinforcing the idea that beauty depends on matching a digital ideal.

574. But filters, retouch, and other editing tools available on TikTok often alter specific facial features, such as the shape of a person’s eyes and lips, in ways that would require medical intervention to alter in real life. Children, particularly girls, are thus striving for a standard of beauty that is functionally impossible to achieve, with every TikTok filter creating a test that they are doomed to fail.

#### **4. ByteDance facilitates the spread of CSAM and child exploitation.**

575. ByteDance has designed various TikTok features that promote and dramatically exacerbate sexual exploitation, the spread of CSAM, sextortion, and other socially maladaptive behavior that harms children.

576. TikTok’s design features enable the spread of this illegal material, and it receives value in the form of increased user activity for disseminating these materials on the app.

577. TikTok allows users to add a location to publicly shared videos of themselves.<sup>632</sup> TikTok encourages the use of location services, “prompt[ing] [users] to turn on Location Services when [users] browse the For You feed.”

578. By providing access to a child user’s present physical location, ByteDance encourages predators to locate nearby children for purposes of sexual exploitation, sextortion, and CSAM.

579. ByteDance designed TikTok with a “Your Private Videos,” feature, where users can create and store private videos that are only visible to the user, better known as “Post-in-Private” accounts, where adult predators store, create, post, and share CSAM. Within days of following a small number of “Post-in-Private” accounts, TikTok’s algorithm begins recommending dozens of other “Post-in-Private” accounts to follow, making it easy for predators to view and share even more CSAM.<sup>633</sup>

580. These accounts are nominally private, but users can share their usernames and passwords with other users to access these private videos.<sup>634</sup> While ByteDance’s user policy forbids sharing passwords with other users, TikTok’s design means that it is nonetheless very easy to do.<sup>635</sup>

581. ByteDance designed TikTok to offer two-factor authentication but does not require users to enable it. In fact, when a user creates a new account, the default setting disables the two-factor authentication.<sup>636</sup>

582. Furthermore, TikTok allows more than one device to be simultaneously logged into a single account, allowing multiple predators to use one “Post-in-Private” account simultaneously.

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<sup>632</sup> *Location Information on TikTok*, TikTok, <https://support.tiktok.com/en/account-and-privacy/account-privacy-settings/location-services-on-tiktok>.

<sup>633</sup> *Location Information on TikTok*, TikTok, <https://support.tiktok.com/en/account-and-privacy/account-privacy-settings/location-services-on-tiktok>.

<sup>634</sup> Gracelynn Wan, *These TikTok Accounts Are Hiding Child Sexual Abuse Material In Plain Sight*, Forbes (Nov. 14, 2022) <https://www.forbes.com/sites/alexandralevine/2022/11/11/tiktok-private-csam-child-sexual-abuse-material/?sh=749d6cb63ad9>.

<sup>635</sup> TikTok Terms of Service, <https://www.tiktok.com/legal/page/us/terms-of-service/en>.

<sup>636</sup> *How your email and phone number are used on TikTok*, TikTok, <https://support.tiktok.com/en/account-and-privacy/personalized-ads-and-data/how-your-phone-number-is-used-on-tiktok>.



583. ByteDance’s “Post-in-Private” accounts feature also facilitate the grooming of children and adolescents by adult predators. Adult predators can store CSAM videos in “Your Private Videos” and then show them to adolescent users as a grooming tool. Should adult predators convince adolescent users to create CSAM of themselves in the “Post-in-Private” accounts, the “Your Private Videos” feature makes it easy for the videos to be produced, uploaded, and stored.

584. Another defective aspect of TikTok is its livestream feature, “TikTok LIVE.” Although ByteDance’s policy restricts access for anyone under eighteen to “TikTok LIVE,” TikTok’s design, as discussed above, does not incorporate an age verification protocol, so it is easy for underage users to access this feature.<sup>637</sup>

585. Within “TikTok LIVE” is another feature called “LIVE Gifts” for “viewers to react and show their appreciation for [] LIVE content in real-time.”<sup>638</sup> TikTok then awards “Diamonds” to LIVE creators based on the popularity of their content. “One way for creators to collect “Diamonds is to receive Gifts from viewers on [their] LIVE videos.” Creators awarded “Diamonds” “may obtain a Reward Payment in money or in virtual items.”<sup>639</sup>

586. ByteDance’s design of the “LIVE Gifts” and “Diamonds” rewards greatly increases the risk of adult predators targeting adolescent users for sexual exploitation, sextortion, and CSAM. According to Leah Plunket, an assistant dean at Harvard Law School, “TikTok LIVE” is “the digital equivalent of going down the street to a strip club filled with 15-year-olds.”<sup>640</sup> “Livestreams on [TikTok] are a popular place for men to lurk and for young girls—enticed by money and gifts—to perform sexually suggestive acts.”<sup>641</sup>

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<sup>637</sup> *What is TikTok LIVE?*, TikTok, <https://support.tiktok.com/en/live-gifts-wallet/tiktok-live/what-is-tiktok-live>.

<sup>638</sup> *LIVE Gifts on TikTok*, TikTok, <https://support.tiktok.com/en/live-gifts-wallet/tiktok-live/live-gifts-on-tiktok>.

<sup>639</sup> *Id.*

<sup>640</sup> Alexandra Levine, *How TikTok Live Became a Strip Club Filled with 15 Year Olds*, Forbes (Apr. 27, 2022), <https://www.forbes.com/sites/alexandralevine/2022/04/27/how-tiktok-live-became-a-strip-club-filled-with-15-year-olds/?sh=5d6cf08d62d7>.

<sup>641</sup> *Id.*

587. Another of TikTok’s defective features enables predators to communicate privately with youth, with virtually no evidence of what was exchanged. The private messaging or “Direct messaging” feature allows a user to send a direct private message to another user. Predators use these messages to identify children willing to respond to a stranger’s message and then prey on the child’s vulnerabilities.

588. Although TikTok’s features enable predators, TikTok does not have any feature to allow users to specifically report CSAM.<sup>642</sup>

589. Federal law mandates that ByteDance reports suspected CSAM to NCMEC under 18 U.S.C. § 2258A. To limit and avoid its reporting requirements under federal law, ByteDance purposely designed TikTok—which it knows is used by children, including children under 13—not to incorporate modern CSAM detection technology. This technology would be free for ByteDance to implement within its app design.

590. Furthermore, in violation of 18 U.S.C. § 2258A, ByteDance knowingly fails to report massive amounts of material in violation of 18 U.S.C. § 2256 and 18 U.S.C. § 1466A.

591. ByteDance knowingly fails to take feasible, adequate, and readily available measures to remove these contraband materials from its platform in a timely fashion.

592. Users have reported “Post-in-Private” CSAM videos to TikTok, and ByteDance responded that no violations of its policy were found. One user searched for and contacted multiple TikTok employees to sound the alarm that CSAM was being created and shared within TikTok’s “Post-in-Private” accounts. This user did not receive a single response to her concerns.<sup>643</sup>

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<sup>642</sup> Canadian Centre for Child Protection, *Reviewing Child Sexual Abuse Material Reporting Functions on Popular Platforms*, [https://protectchildren.ca/pdfs/C3P\\_ReviewingCSAMMaterialReporting\\_en.pdf](https://protectchildren.ca/pdfs/C3P_ReviewingCSAMMaterialReporting_en.pdf).

<sup>643</sup> Gracelynn Wan, *These TikTok Accounts Are Hiding Child Sexual Abuse Material In Plain Sight*, Forbes (Nov. 14, 2022), <https://www.forbes.com/sites/alexandrlevine/2022/11/11/tiktok-private-csam-child-sexual-abuse-material/?sh=290dbfa63ad9>.

593. ByteDance nonetheless continues to make false representations that they will “take immediate action to remove content, terminate accounts, and report cases to NCMEC and law enforcement as appropriate.”<sup>644</sup>

594. ByteDance gains revenue for every daily user on TikTok in North America. Each user and their data are worth income, and ByteDance continues to benefit financially from predators who commit sexual abuse against children and/or share CSAM using ByteDance’s app.

**5. ByteDance failed to adequately warn about the harms its app causes or to provide instructions regarding safe use.**

595. Since TikTok’s inception, ByteDance has failed to adequately warn young users about the physical and mental health risks its app poses. These risks include, but are not limited to, app abuse and addiction, sexual exploitation from adult users, dissociative behavior, damage to body image, social isolation, and a plethora of mental health disorders like body dysmorphia, eating disorders, anxiety, depression, insomnia, ADD/ADHD exacerbation, suicidal ideation, self-harm, suicide, and death.

596. ByteDance targets young users via advertising and marketing materials distributed throughout traditional as well as digital media, including other social media platforms. ByteDance fails to provide adequate warnings in advertising and marketing campaigns to potential adolescent consumers of the physical and mental harms associated with using TikTok.

597. ByteDance heavily advertises its app on YouTube and Snapchat, where it knows it can effectively reach younger users. In 2019, for example, 80 percent of TikTok’s advertising spending was on Snapchat.<sup>645</sup> ByteDance is one of the biggest advertisers on Snapchat. In 2019, ByteDance accounted for 4.4% of Snapchat’s advertising revenue.<sup>646</sup> ByteDance knows that

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<sup>644</sup> *Protecting Against Exploitative Content*, TikTok, <https://newsroom.tiktok.com/en-us/protecting-against-exploitative-content>.

<sup>645</sup> *TikTok – Snapchat’s Biggest Advertiser – What’s the Strategy*, Media Radar (Feb. 24, 2020), <https://mediaradar.com/blog/tiktok-snapchat-advertising-strategy/>.

<sup>646</sup> Robert Williams, *TikTok is the biggest advertiser on Snapchat, study says*, MarketingDive (March 16, 2020), <https://www.marketingdive.com/news/tiktok-is-the-biggest-advertiser-on-snapchat-study-says/574164/>.

advertising on Snapchat is an effective way to reach a young audience. Snap claims that Snapchat reaches 90% of people aged 13-24 years old, and 75% of 13-34 year olds in the United States.

598. One TikTok ad compiles viral videos featuring people of all ages and sets the video to the pandemic musical hit “Bored in the House,” by a popular TikTok creator. The 15-second video, titled “It Starts On TikTok,” notes, “if it’s in culture, it starts on TikTok.”<sup>647</sup>

599. Other advertisements ByteDance places on YouTube promote TikTok as family-friendly. For example, one commercial features parents impersonating their children, explaining that “parents roasting their kids is the best kind of family bonding.”<sup>648</sup> Another TikTok ad asks content creators what TikTok means to them. Responses include “family,” “sharing special moments with my daughter,” and a featured appearance by well-known TikTok creator Addison Rae, who says TikTok represents “family and fun.”<sup>649</sup>

600. ByteDance released another TikTok ad, part of the “It Starts on TikTok” ad campaign, and scheduled it to release on TV, digital media, radio and TikTok’s own social channels.<sup>650</sup> The tagline for the campaign was “[l]oving all of you and the things you do. Celebrating you” and featured a series of viral clips of various cheerful scenes depicting people gathered with friends and family of ages.

601. Despite its funny, cheerful ads featuring smiling families and funny images, TikTok, as designed, presents serious risks to young users on the platform, through its distinctive and manipulative app features, including a lack of adequate age and identity verification tools, as well as inadequate parental controls.

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<sup>647</sup> TikTok, *It Starts on TikTok: Bored in the House*, YouTube (Sept. 9, 2020), <https://www.youtube.com/watch?v=DWZCgkmcIjE>.

<sup>648</sup> *Family Impressions, Compilation*, TikTok’s Official YouTube Page, <https://www.youtube.com/watch?v=6EYzm25gW-s>.

<sup>649</sup> *TikTok Creators Share Their Thoughts About TikTok*, TikTok’s Official YouTube Page <https://www.youtube.com/watch?v=KAveGBv7HVM>.

<sup>650</sup> Todd Spangler, *TikTok Launches Biggest-Ever Ad Campaign as Its Fate Remains Cloudy*, Variety (Aug. 10, 2020), <https://variety.com/2020/digital/news/tiktok-advertising-brand-campaign-sale-bytedance-1234738607/>.

602. ByteDance fails to adequately warn young users of these risks beginning with the first stages of the registration process. At account setup, TikTok contains no warning labels, banners, or conspicuous messaging to adequately inform adolescent users of risks, potential dangers, and physical and mental harm associated with usage of the app. Instead, ByteDance allows underage users to easily create an account (or multiple accounts) and fully access the platform.

603. ByteDance's lack of appropriate warnings continues once a child has TikTok. ByteDance does not suitably inform child users that their data will be tracked, used to help build a unique algorithmic profile, and potentially sold to TikTok's advertising clients.

604. Alarming, ByteDance also does not adequately warn young users before facilitating adult connections and interactions that adult predators use its platform.

605. ByteDance's failure to adequately warn young users about the risks of the app continues even if they display signs of addiction or habitual and compulsive use. Besides the disabled by default "Take a Break" reminder, ByteDance does not warn users when their screen time reaches harmful levels or when young users are accessing the app on a habitual basis.

606. Not only does ByteDance fail to adequately warn users and the public about the risks associated with TikTok, but it also does not provide sufficient instructions on how children can safely use the app. A reasonable and responsible company would instruct children on best practices and safety protocols when using a platform known to contain danger and health risks.

607. ByteDance, however, fails to adequately warn users and the public that:

- a. sexual predators use TikTok to produce and distribute CSAM;
- b. adult predators targeting children for sexual exploitation, sextortion, and CSAM are prevalent on ByteDance's app;
- c. CSAM is prevalent on ByteDance's app;
- d. usage of the app can increase the risk of children being targeted and sexually exploited by adult predators;

- e. usage of the app can increase risky and uninhibited behavior in children, making them easier targets to adult predators for sexual exploitation, sextortion, and CSAM; and,
- f. end-to-end encryption and/or the ephemeral nature of ByteDance's direct messaging feature prevents the reporting of CSAM.

608. ByteDance failed to adequately warn parents, the public, and Plaintiff about all of the foregoing dangers and harms.

**F. GOOGLE MARKETS AND DESIGNS YOUTUBE TO ADDICT YOUNG USERS, SUBSTANTIALLY CONTRIBUTING TO THE MENTAL HEALTH CRISIS**

609. Eric Schmidt, the former CEO of Google and more recently, Alphabet, YouTube's corporate parent, recently acknowledged the powerful and purposefully addictive effect of social media. Social media platforms are about "maximizing revenue," Mr. Schmidt said, and the best way to maximize revenue is to "maximize engagement." As Mr. Schmidt continued, in pursuit of their goal of maximizing engagement to increase revenues, social media platforms "play into the addiction capabilities of every human."<sup>651</sup>

610. YouTube is no exception. It includes specific, carefully calibrated features that are known to exploit the mental processes of its users to keep them engaged for as long, as frequently, and as intensely as possible. Google knows that children and teenagers who flock in droves to YouTube are particularly susceptible to these features. The impact of YouTube's addictive power on American youth has been devastating.

**1. Background and overview of YouTube.**

611. YouTube allows users to post and consume countless hours of video content about virtually any topic imaginable. YouTube is available without any age verification feature or adequate parental controls, and comes pre-installed in many Smart-TVs, mobile devices, various

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<sup>651</sup> Issie Lapowsky, *Eric Schmidt: Social Media Companies 'Maximize Outrage' for Revenue*, Protocol (Jan. 6, 2022), <https://www.protocol.com/bulletins/eric-schmidt-youtube-criticism>.

digital media players like Roku, and video game consoles like PlayStation, Wii, X-box and Nintendo.

612. YouTube allows users to search for specific video content. It also employs a powerful algorithm that exploits detailed user information to target each individual user with hours upon hours of videos recommended by YouTube.

613. A group of design experts and computer scientists created YouTube and launched the platform for public use in December 2005.

614. Technology behemoth Google quickly recognized YouTube's huge profit potential. In 2006, just a year after YouTube's launch, Google acquired YouTube for more than \$1.65 billion in Google stock. At the time, Google's acquisition of YouTube was one of the largest-ever tech acquisitions.

615. YouTube primarily generates revenue by selling advertising. The more people who use YouTube and spend time on the site, the more ads YouTube can sell.<sup>652</sup> The ads are then embedded or placed within the endless stream of videos recommended to the user by YouTube's algorithm.

616. By 2012, YouTube users were watching close to four billion hours of video every month. Yet, the average YouTube user spent just fifteen minutes daily engaged with the platform.<sup>653</sup> Users "were coming to YouTube when they knew what they were coming to look for."<sup>654</sup> They employed the platform to identify and watch certain video content, and then they were done.

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<sup>652</sup> Mark Bergen, *YouTube Executives Ignored Warnings, Letting Toxic Videos Run Rampant*, Bloomberg (Apr. 2, 2019), <https://www.bloomberg.com/news/features/2019-04-02/youtube-executives-ignored-warnings-letting-toxic-videos-run-rampant>.

<sup>653</sup> John Seabrook, *Streaming Dreams: YouTube Turns Pro*, New Yorker (Jan. 16, 2012), <https://www.newyorker.com/magazine/2012/01/16/streaming-dreams>.

<sup>654</sup> Casey Newton, *How YouTube Perfected the Feed*, Verge (Aug. 30, 2017), <https://www.theverge.com/2017/8/30/16222850/youtube-google-brain-algorithm-video-recommendation-personalized-feed>.



617. To drive greater revenue, “YouTube . . . set a company-wide objective to reach one billion hours of viewing a day[.]”<sup>655</sup>

618. As Susan Wojcicki, YouTube’s CEO explained, the goal of a “billion hours of daily watch time gave our tech people a North Star.”<sup>656</sup>

619. Google decided that “the best way to keep eyes on the site” was to introduce a feature that would “[recommend] videos, [that were playing] or after one was finished.”<sup>657</sup>

620. That new feature uses a recommendation algorithm to identify and push additional videos to users, which YouTube plays automatically, through a feature called “autoplay.” Autoplay begins the next video as soon as the previous videos ends, creating a constant stream of content.

621. Google’s design changes worked. Today, YouTube “has over 2 billion monthly logged-in users.”<sup>658</sup> And that 2 billion figure does not capture all usage because YouTube, by design, allows users to consume videos without logging in or registering an account.

## **2. Google intentionally encourages youth to use YouTube and then leverages that use to increase revenue.**

622. Google knows that children and teenagers use YouTube in greater proportions than older demographics. YouTube now ranks as the world’s most popular social media platform for minors. According to one recent report, more than 95% of children ages 13-17 have used YouTube.<sup>659</sup> Nearly 20% of U.S. teens use YouTube almost constantly.<sup>660</sup> Among U.S. teenagers who regularly use social media, 32% “wouldn’t want to live without” YouTube.<sup>661</sup>

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<sup>655</sup> Mark Bergen, *YouTube Executives Ignored Warnings, Letting Toxic Videos Run Rampant*, Bloomberg (Apr. 2, 2019), <https://www.bloomberg.com/news/features/2019-04-02/youtube-executives-ignored-warnings-letting-toxic-videos-run-rampant>.

<sup>656</sup> *Id.*

<sup>657</sup> *Id.*

<sup>658</sup> *YouTube for Press*, YouTube, <https://blog.youtube/press/>.

<sup>659</sup> Emily Vogels et al., *Teens, Social Media and Technology 2022*, Pew Rsch. Ctr. (Aug. 10, 2022), <https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022>.

<sup>660</sup> *Id.*

<sup>661</sup> Victoria Rideout et al., *Common Sense Census: Media Use by Tweens and Teens, 2021* at 31, Common Sense Media (2022),

623. Rather than ensuring minors are not inappropriately or excessively using YouTube, Google has sought to dominate their attention.

624. YouTube's age controls are defective (or non-existent, since registration is not required). In addition, Google has developed and marketed a version of YouTube, YouTube Kids, explicitly targeted at children under 13. Google developed this version to encourage early—and therefore lasting—adoption of YouTube by children.

625. Google knows that a robust and committed base of young users is key to maximizing advertising revenue. Indeed, it has aggressively touted its hold on child users to advertisers.

626. In 2014, for example, Google pitched YouTube to Hasbro, a popular toy manufacturer, and specifically boasted of its immense popularity among children, noting that it was “unanimously voted as the favorite website of kids 2-12” and that “93% of tweens” use it.<sup>662</sup>

627. In 2015, Google gave a similar presentation to toy manufacturer Mattel, the maker of Barbie and other popular kids' toys, highlighting children's widespread use of YouTube to persuade Mattel to display digital ads on the site.<sup>663</sup>

628. The FTC has aptly summarized Google's pitch to advertisers concerning the value of its youth user base.<sup>664</sup> For example, Google boasted that YouTube “is today's leader in reaching children age 6-11;” “the new ‘Saturday Morning Cartoons’;” “unanimously voted as the favorite website of kids 2-12;” “the #1 website regularly visited by kids;” and used by “93% of tweens.”<sup>665</sup>

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[https://www.common sense media.org/sites/default/files/research/report/8-18-census-integrated-report-final-web\\_0.pdf](https://www.common sense media.org/sites/default/files/research/report/8-18-census-integrated-report-final-web_0.pdf).

<sup>662</sup> Complaint for Permanent Injunction, Civil Penalties, and Other Equitable Relief, *FTC v. Google LLC* et al., No. 1-19-cv-02642-BAH, at 6 (D.D.C. Sept. 4, 2019) Dkt. #1-1. [https://www.ftc.gov/system/files/documents/cases/youtube\\_complaint\\_exhibits.pdf](https://www.ftc.gov/system/files/documents/cases/youtube_complaint_exhibits.pdf).

<sup>663</sup> *Id.*

<sup>664</sup> *Google and YouTube Will Pay Record \$170 Million for Alleged Violations of Children's Privacy Law*, FTC (Sept. 4, 2019), <https://www.ftc.gov/news-events/news/press-releases/2019/09/google-youtube-will-pay-record-170-million-alleged-violations-childrens-privacy-law>. (“YouTube touted its popularity with children to prospective corporate clients”, said FTC Chairman Joe Simons.)

<sup>665</sup> Complaint for Permanent Injunction, Civil Penalties, and Other Equitable Relief, *FTC v. Google LLC* et al., No. 1-19-cv-02642-BAH, at 3,12, and 6-7 (D.D.C. Sept. 4, 2019) Dkt. #1-1. [https://www.ftc.gov/system/files/documents/cases/youtube\\_complaint\\_exhibits.pdf](https://www.ftc.gov/system/files/documents/cases/youtube_complaint_exhibits.pdf).

629. Many of YouTube’s most-viewed videos are kid-focused, and the most subscribed and highest paid YouTubers are children. With over 12 billion views, “Baby Shark Dance,” a video aimed at toddlers, is the most viewed video in the history of YouTube– and it and five other child-focused videos make up the top ten YouTube videos of all time.<sup>666</sup> Child creators also dominate top-earner lists year after year. Ryan Kaji of Ryan’s World (f/k/a Ryan ToysReview), a channel featuring now 12-year-old Ryan Kaji unboxing children’s toys, has been among YouTube’s Top 10 most-.YouTuber in the world.<sup>667</sup>

630. As with other Defendants, once Google lures children in, it then mines them (and all other users) for a breathtaking amount of data. Google’s current privacy policy reveals how sweeping this data collection is. It states that Google and YouTube tracks:

- a. “[I]nformation about the apps, browsers, and devices you use to access Google services . . . includ[ing] unique identifiers, browser type and settings, device type and settings, operating system, mobile network information including carrier name and phone number, and application version number. We also collect information about the interaction of your apps, browsers, and devices with our services, including IP address, crash reports, system activity, and the date, time, and referrer URL of your request.”
- b. “[Y]our activity in our services . . . includ[ing] terms you search for[;] videos you watch[;] views and interactions with content and ads[;] voice and audio information[;] purchase activity[;] people with whom you communicate or share content[;] activity on third-party sites and apps that use our services[;] and Chrome browsing history you’ve synced with your Google Account.”
- c. “Your location information [including] GPS and other sensor data from your device[;] IP address[;] activity on Google services, such as your searches and places you label like home or work[;] [and] information about things near your device, such as Wi-Fi access points, cell towers, and Bluetooth-enabled devices;”<sup>668</sup>

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<sup>666</sup> Most Viewed Videos of All Time • (Over 700M views) - YouTube.

[https://www.youtube.com/playlist?list=PLirAqAtl\\_h2r5g8xGajEwdXd3x1sZh8hC](https://www.youtube.com/playlist?list=PLirAqAtl_h2r5g8xGajEwdXd3x1sZh8hC)

<sup>667</sup> *Gamer DanTDM Takes The Crown With \$16.5 Million*, Forbes (Dec. 7, 2017),

<https://www.forbes.com/sites/maddieberg/2017/12/07/the-highest-paid-youtube-stars-2017-gamer-dantdm-takes-the-crown-with-16-5-million/?sh=72de79413979>; Natalie Robehmed & Madeline Berg, *Highest-Paid YouTube Stars 2018: Markiplier, Jake Paul, PewDiePie And More*, Forbes (Dec. 3, 2018), <https://www.forbes.com/sites/natalierobehmed/2018/12/03/highest-paid-youtube-stars-2018-markiplier-jake-paul-pewdiepie-and-more/?sh=7d909c3f909a>.

<sup>668</sup> Information Google Collects. <https://policies.google.com/privacy?hl=en#infocollect>.

631. Google’s privacy policy also indicates that, like other Defendants, it purchases data about its users from data brokers, which it euphemistically refers to as “trusted partners” or “marketing partners.”<sup>669</sup>

632. As with other Defendants, YouTube’s collection and analysis of user data allows it to assemble virtual dossiers on its users, covering hundreds if not thousands of user-specific data segments. This, in turn, allows advertisers to micro-target marketing and advertising dollars to very specific categories of users, who can be segregated into pools or lists using YouTube’s data segments. Advertisers purchase ad real estate space on users’ feeds, which allow them to place the right ads in front of these micro-targeted segments of users—including children, both in the main YouTube frame and in YouTube Kids. Only a fraction of these data segments come from content knowingly designated by users for publication or explicitly provided by users in their account profiles. Instead, many of these data segments are collected by YouTube through surveillance of each user’s activity while using the platform and even when logged off it.<sup>670</sup>

633. As with Meta, Google’s data policy does not inform users that the more time individuals spend using YouTube, the more ads Google can deliver and the more money it can make, or that the more time users spend on YouTube, the more YouTube learns about them, and the more it can sell to advertisers the ability to micro-target highly personalized ads.

634. Google’s secret virtual dossiers on its users, including child users, fuel its algorithms. The company relies on this data—including data plainly reflecting use by children—to train its algorithms. A Google engineer explained in a 2014 presentation:

What do I mean by a training example? It’s a single-user experience. On YouTube, perhaps it’s that one [Thomas the Tank Engine] webpage my son saw six months ago, along with all the recommendations that we showed him. We also record the outcome to know whether the recommendations we made are good or whether they’re bad. That’s a single training exercise. On a

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<sup>669</sup> Information Google Collects. <https://policies.google.com/privacy?hl=en#infocollect>.

<sup>670</sup> About Targeting for Video Campaigns, Google, <https://support.google.com/youtube/answer/2454017?hl=en>.

large property, you can easily get into hundreds of billions of these.<sup>671</sup>

The engineer illustrated this with a slide, excerpted below, presenting how algorithmic analysis both structured the format of recommendations of Thomas the Tank Engine YouTube videos and provided information to inform algorithmic training through user engagement:



635. Through these and other efforts, YouTube has delivered massive amounts of advertising revenue to Google. In 2021 alone, YouTube generated about \$29 billion in revenue selling ads on its site.<sup>672</sup>

<sup>671</sup> Alex Woodie, *Inside Sibyl, Google's Massively Parallel Machine Learning Platform*, Datanami (Jul. 17, 2014) <https://www.datanami.com/2014/07/17/inside-sibyl-googles-massively-parallel-machine-learning-platform/>.

<sup>672</sup> Andrew Hutchinson, *YouTube Generated \$28.8 Billion in Ad Revenue in 2021*, Social Media Today (Feb. 2, 2021), <https://www.socialmediatoday.com/news/youtube-generated-288-billion-in-ad-revenue-in-2021-fueling-the-creator/618208/>; Jennifer Elias, *YouTube Is a Media*

**3. Google intentionally designed features to addict children and adolescents.**

636. Google devised and continues to employ interrelated features to increase usage and maximize engagement by teenagers and children. Simply put, YouTube's features are engineered to induce excessive use and to addict adolescents and children.

**a. Google's age-verification measures and parental controls are defective.**

637. Google's strategy to entrench minor users begins with access. The company purports to impose a minimum age requirement and claims to verify the age of its users. But those features are defective, as they do little to prevent children and teenagers from using YouTube.

638. Anyone with access to the Internet, regardless of age, can use YouTube and access every video available through the platform without registering an account or verifying their age. YouTube does not ask for age information before allowing users to consume YouTube videos.

639. A user needs an account to post content or like (or comment) on videos. But to get one, a user needs only enter a valid email address and a birthday. Google does nothing to verify the birthday entered by users in the U.S.—and the platform freely permits users to change their birthdays in their account settings after creating an account.

640. YouTube's defective age verification feature means that Google fails to protect children from other features discussed below that are harmful to kids.

641. For example, for users 13-17, Google claims to disable YouTube's autoplay feature. However, that measure is virtually meaningless because children can use YouTube without logging into any account or by logging in but misreporting their age.

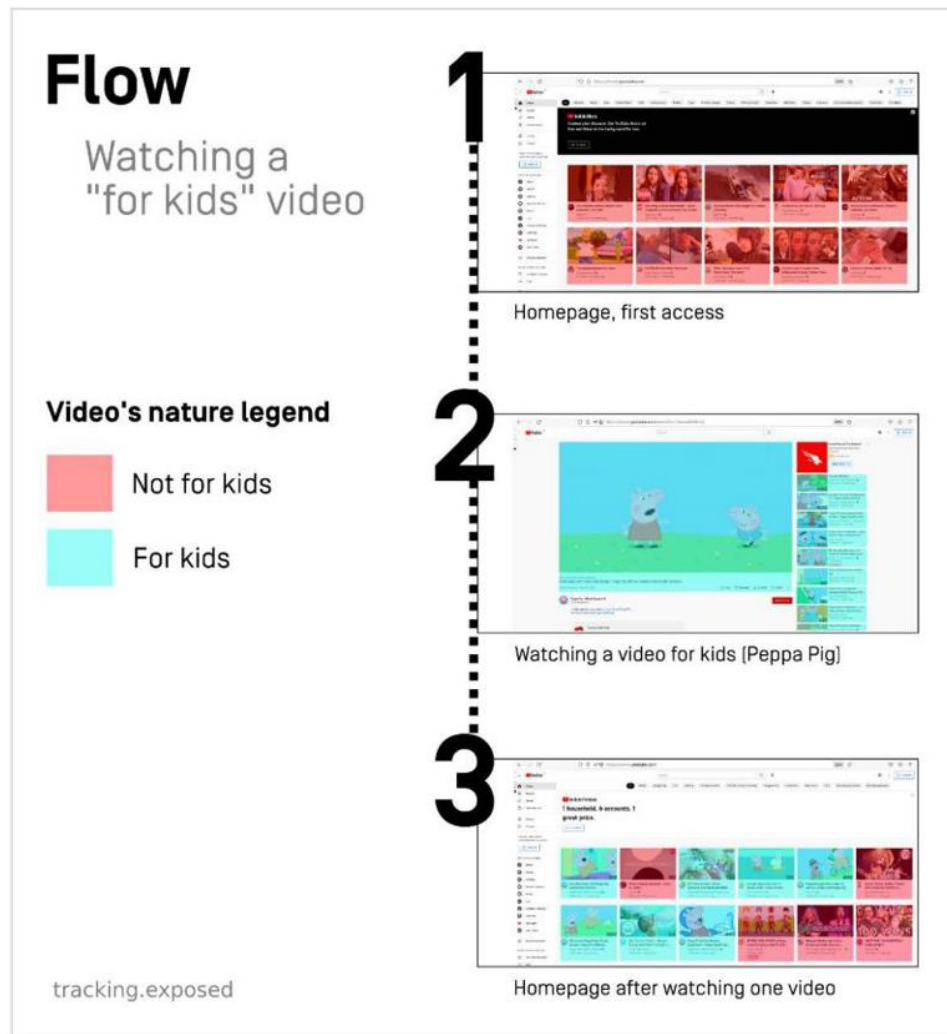
642. Even if children use YouTube Kids, that platform contains many of the same defects YouTube does, including a harmful, manipulative algorithm, as alleged below.

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*Juggernaut That Could Soon Equal Netflix in Revenue*, CNBC (Apr. 27, 2021), <https://www.cnbc.com/2021/04/27/youtube-could-soon-equal-netflix-in-revenue.html>.



643. Google cannot credibly claim that it is unaware of the fact and extent of youth usage of YouTube. Google's system can "identify children as being much younger than 13."<sup>673</sup> According to Tracking Exposed, YouTube can rapidly identify a user as a child.<sup>674</sup>



644. Google engineers have publicly admitted YouTube's algorithm tracks user age. As Google engineers outlined in a 2016 paper on YouTube's recommendation system, "[d]emographic features are important for providing priors so that the recommendations behave reasonably for new users. The user's geographic region and device are embedded and concatenated. Simple binary and

<sup>673</sup> Tracking Exposed, Report: Non-Logged-In Children Using YouTube at 6 (Apr. 2022), <https://tracking.exposed/pdf/youtube-non-logged-kids-03July2022.pdf>.

<sup>674</sup> *Id.* at 15, 18.



continuous features such as the user's gender, logged-in state and age are input directly into the network as real values normalized to [0; 1].”<sup>675</sup>

645. The Tracking Exposed Report indicated that there was “strong evidence” that Google’s systems continue to refine and develop a more precise estimate for under 18 users, but YouTube does not “redirect them to YouTube Kids.”<sup>676</sup>

**b. YouTube is defectively designed to inundate users with features that use intermittent variable rewards and reciprocity.**

646. Google uses a series of interrelated design features that exploit known mental processes to induce YouTube’s users to use the platform more frequently, for more extended periods, and with more intensity (i.e., providing more comments and likes). Google knows children and adolescents, whose brains are still developing, are particularly susceptible to these addictive features.

647. Google designed its platform so that when children and teenagers use it, they are inundated with interface design features specifically designed to dominate their attention and encourage excessive use. Every aspect of how YouTube presents the format of a given page with a video is structured to ensure unimpeded viewing of the videos, alongside download, like, and share buttons, plus recommendations for more videos to watch. The organization of these features is carefully calibrated to adjust to the space constraints of a user’s device, such that minimal effort is needed to watch a video unimpeded. YouTube even has an ambient mode that uses dynamic color sampling so that YouTube adapts to the video being watched and the user is not distracted by the video’s borders.<sup>677</sup>

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<sup>675</sup> Paul Covington et al., *Deep Neural Networks for YouTube Recommendations*, Google (2016), <https://storage.googleapis.com/pub-tools-public-publication-data/pdf/45530.pdf>.

<sup>676</sup> Tracking Exposed, Report: Non-Logged-In Children Using YouTube at 6, 19 (Apr. 2022), <https://tracking.exposed/pdf/youtube-non-logged-kids-03July2022.pdf>.

<sup>677</sup> YouTube rolling out black dark theme, ‘Ambient Mode,’ and other video player updates (Oct. 24, 2022), <https://9to5google.com/2022/10/24/youtube-ambient-mode/>.

648. Like the other Defendants, Google has designed YouTube with features that exploit neuropsychology to maximize the time users (including children) spend using the platform.

649. IVR features, such as notifications and likes, compel YouTube content creators and consumers, particularly children, to use the platform habitually and excessively. For example, in order to create and upload content to YouTube, a user under 13 may submit a fictitious birthdate in order to gain access to posting privileges. Once the young user has a logged-in account, they are capable of receiving notifications and likes. For example, the logged in user can subscribe to various YouTube channels, which in turn will send them notifications from various channels they follow. Similarly, young content creators who upload videos to YouTube are able to track the likes received by the video. These features psychologically reward creators who upload videos to YouTube. As explained above, receiving a “Like” shows others’ approval and activates the brain’s reward region.<sup>678</sup> Thus, users’ ability to like content encourages creators to use the platform compulsively, seeking additional pleasurable experiences.

650. Another YouTube defect is the design Google engineers deploy to induce “flow” state among users, which as described above is dangerous to children because it induces excessive use and poses a risk of addiction, compulsive use, and sleep deprivation.

651. YouTube uses two design features that induce flow state. The first is its panel of recommended videos. YouTube recommends videos both on the home page and on each video page in the “Up Next” panel.<sup>679</sup> This panel pushes an endless stream of videos that YouTube’s algorithm selects and “suggests” to keep users watching by teasing a pipeline of upcoming content.

652. The second feature is autoplay, which complements the Up Next panel and seamlessly takes users through the list of upcoming videos without users having to affirmatively click on or search for other videos. This constant video stream—comprised of videos recommended

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<sup>678</sup> See, e.g., Lauren E. Sherman et al., *The Power of the Like in Adolescence: Effects of Peer Influence on Neural and Behavioral Responses to Social Media*, 27(7) Psych. Sci. 1027–35 (July 2016), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5387999/>.

<sup>679</sup> Recommended Videos, YouTube, <https://www.youtube.com/howyoutubeworks/product-features/recommendations/>.

by YouTube’s algorithm—is the primary way Google increases the time users spend using YouTube. This endless video succession induces users to enter a flow state of consumption, which is particularly dangerous for children.

653. In an April 2021 letter to YouTube CEO Susan Wojcicki, the House Committee on Oversight and Reform criticized the autoplay feature:

This places the onus on the child to stop their viewing activity, rather than providing a natural break or end point. Without that natural stopping point, children are likely to continue watching for long periods of time.<sup>680</sup>

654. This defect is particularly acute for Google’s recently launched YouTube Shorts. YouTube Shorts enables users to create short videos up to sixty seconds in length, in a full-screen format popularized by TikTok and copied by Instagram Reels. As in Reels and TikTok, Shorts are presented in an algorithmically generated feed; users can watch new videos by swiping up on their smartphones. Instead of presenting videos chronologically, they are organized in a manner to drive the most watch time, as dictated by the algorithm. Indeed, Google hired TikTok’s North American head, Kevin Ferguson, and other TikTok engineers to develop YouTube Shorts.<sup>681</sup> And much like those other platforms, the ability to scroll continuously through YouTube Shorts content induces a “flow-state,” distorting users’ sense of time and facilitating extended use.

655. An important target audience for YouTube Shorts is children. For example, YouTube Shorts features content, such as child “influencers,” that appeals to children. YouTube Shorts also contains similar defects to other Defendants’ short form platforms, including the ability to scroll continuously through YouTube Shorts, inducing a “flow-state” that distorts users’ sense of time and facilitates extended use, and dangerous exploitation of “social comparison” techniques

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<sup>680</sup> Letter from Rep. Raja Krishnamoorthi, Chairman, Subcomm. on Economic and Consumer Policy, to Susan Wojcicki, CEO, YouTube (Apr. 6, 2021), <https://oversightdemocrats.house.gov/sites/democrats.oversight.house.gov/files/2021-04-06.RK%20to%20Wojcicki-YouTube%20re%20YouTube%20Kids%20Content.pdf>.

<sup>681</sup> Richard Nieva, *In the Age of TikTok, YouTube Shorts Is a Platform in Limbo*, Forbes (Dec. 20, 2022), <https://www.forbes.com/sites/richardnieva/2022/12/20/youtube-shorts-monetization-multiformat/>.

by promoting misleadingly idealized portrayals from influencers and others who are rewarded for posting popular material.

656. Almost immediately upon launch, Google began marketing YouTube Shorts to children. For example, Google launched an advertisement featuring images of children and teenagers (like in the screenshot below) engaging with the YouTube Shorts platform.



657. Similarly, another advertisement for Shorts explains how creators on YouTube can keep revenue generated by their Shorts viewership, while an image of a video creator young enough to be in braces appears on screen.<sup>682</sup>

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<sup>682</sup> Made on YouTube: New ways to join YPP, Shorts Monetization & Creator Music.  
<https://www.youtube.com/watch?v=h6TrvCV3NdU>.



658. Shorts is one of YouTube’s interrelated design features that exploit known mental processes to induce YouTube users to use the platform more frequently, for more extended periods, and with more intensity (i.e., providing more comments and likes). Not surprisingly, given its copycat origin, the defects in Shorts replicate the defects in TikTok and Instagram Reels, discussed above. Google knows or should have known that children, whose brains are still developing, are particularly susceptible to such addictive features.

659. YouTube has monetized users’ susceptibility to IVR by allowing creators who obtain more than a thousand subscribers with four-thousand valid public watch hours to qualify for the YouTube Partner Program. Once a creator obtains this elite status, they are rewarded with “Super Chat” and “Super Stickers”—special images or distinct messages that other users can purchase and place on a creator’s channel.<sup>683</sup> Paid messages, including the amount donated, are visible to all users. And the more a user pays for these promotions, the more prominent and longer the image is displayed. Both features are intended to allow a user to show support for, or connect

<sup>683</sup> YouTube Partner Program: How to Make Money on YouTube, [https://www.youtube.com/intl/en\\_us/creators/how-things-work/video-monetization/](https://www.youtube.com/intl/en_us/creators/how-things-work/video-monetization/).

with, their favorite YouTube creators. Similar to the “Likes” feature, this paid support activates the reward center of the content creator’s brain and releases dopamine while the creator is generating revenue for YouTube.

**c. Google’s algorithms are designed to maximize “watch time.”**

660. Google engineers algorithms to recommend videos to YouTube users.

661. YouTube began building its algorithms in 2008.<sup>684</sup> Its goal was to maximize how long users spent watching YouTube videos.<sup>685</sup>

662. These algorithms select videos that populate the YouTube homepage, rank results in user searches, and push videos for viewers to watch through the “Up Next” feature.

663. YouTube designed its algorithms to manipulate users and induce them to use YouTube excessively.

664. A former YouTube engineer explained that when he designed YouTube’s algorithm, YouTube wanted to optimize for one key metric: “watch time.”<sup>686</sup> The engineer elaborated that “[i]ncreasing users’ watch time is good for YouTube’s business model” because it increases advertising revenue.<sup>687</sup>

665. In 2012 the YouTube Head of Content Creator Communications, similarly explained: “When we suggest videos, we focus on those that increase the amount of time that the

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<sup>684</sup> Cristos Goodrow, *On YouTube’s Recommendation System*, YouTube (Sept. 15, 2021), <https://blog.youtube/inside-youtube/on-youtubes-recommendation-system/>.

<sup>685</sup> Ben Popken, *As Algorithms Take Over, YouTube’s Recommendations Highlight a Human Problem*, NBC (Apr. 19, 2018), <https://www.nbcnews.com/tech/social-media/algorithms-take-over-youtube-s-recommendations-highlight-human-problem-n867596>.

<sup>686</sup> William Turton, *How YouTube’s Algorithm Prioritizes Conspiracy Theories*, Vice (Mar. 5, 2018), <https://www.vice.com/en/article/d3w9ja/how-youtubes-algorithm-prioritizes-conspiracy-theories>.

<sup>687</sup> Jesselyn Cook & Sebastian Murdock, *YouTube Is a Pedophile’s Paradise*, Huffington Post (Mar. 20, 2020), [https://www.huffpost.com/entry/youtube-pedophile-paradise\\_n\\_5e5d79d1c5b6732f50e6b4db](https://www.huffpost.com/entry/youtube-pedophile-paradise_n_5e5d79d1c5b6732f50e6b4db).

viewer will spend watching videos on YouTube, not only on the next view, but also successive views thereafter.”<sup>688</sup>

666. The current algorithm uses deep-learning neural networks, a type of software that returns outputs based on data fed into it.<sup>689</sup> The VP of Engineering at YouTube, explained that it is “constantly evolving, learning every day from over 80 billion pieces of information [Google] calls signals.”<sup>690</sup> Those signals include “watch and search history . . . , channel subscriptions, clicks, watchtime, survey responses, and sharing, likes, and dislikes.”<sup>691</sup> They also include user demographic information like age and gender.<sup>692</sup>

667. Google’s algorithm also “uses data from your Google Account activity to influence your recommendations.”<sup>693</sup>

668. The algorithm “develops dynamically” to predict which posts will hold the user’s attention.<sup>694</sup> That is, it can also determine which “signals” are more important to individual users. For example, if a user shares every video they watch, including those they rate low, the algorithm learns to discount the significance of the user’s shares when recommending content.<sup>695</sup>

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<sup>688</sup> Eric Meyerson, *YouTube Now: Why We Focus on Watch Time*, YouTube (Aug. 10, 2012), <https://blog.youtube/news-and-events/youtube-now-why-we-focus-on-watch-time/>.

<sup>689</sup> Alexis C. Madrigal, *How YouTube’s Algorithm Really Works*, Atlantic (Nov. 8, 2018), <https://www.theatlantic.com/technology/archive/2018/11/how-youtubes-algorithm-really-works/575212/>; Paul Covington et al., *Deep Neural Networks for YouTube Recommendations*, Google (2016), <https://storage.googleapis.com/pub-tools-public-publication-data/pdf/45530.pdf>.

<sup>690</sup> Cristos Goodrow, *On YouTube’s Recommendation System*, YouTube (Sept. 15, 2021), <https://blog.youtube/inside-youtube/on-youtubes-recommendation-system/>.

<sup>691</sup> YouTube Partner Program: How to Make Money on YouTube, [https://www.youtube.com/intl/en\\_us/creators/how-things-work/video-monetization/](https://www.youtube.com/intl/en_us/creators/how-things-work/video-monetization/).

<sup>692</sup> Paul Covington et al., *Deep Neural Networks for YouTube Recommendations*, Google (2016), <https://storage.googleapis.com/pub-tools-public-publication-data/pdf/45530.pdf>.

<sup>693</sup> Manage Your Recommendations and Search Results, Google, <https://support.google.com/youtube/answer/6342839?hl=en&co=GENIE.Platform%3DAndroid>.

<sup>694</sup> Cristos Goodrow, *On YouTube’s Recommendation System*, YouTube (Sept. 15, 2021), <https://blog.youtube/inside-youtube/on-youtubes-recommendation-system/>.

<sup>695</sup> *Id.*



669. Besides the algorithm’s self-learning capability, Google also consistently refines the algorithm, updating it “multiple times a month.”<sup>696</sup>

670. In 2017, the former technical lead for YouTube recommendations explained that “one of the key things [the algorithm] does is it’s able to generalize.”<sup>697</sup> While older iterations “were pretty good at saying, here’s another [video] just like” ones the user had watched, by 2017, the algorithm could discern “patterns that are less obvious,” identifying “adjacent relationships” of “similar but not exactly the same” content.<sup>698</sup>

671. Over time, the algorithm became increasingly successful in getting users to watch recommended content. By 2018, YouTube Chief Product Officer Neal Mohan said that the YouTube algorithm was responsible for more than 70% of users’ time using YouTube.<sup>699</sup> That is, more than 70% of the time users spend on YouTube was from recommendations Google’s algorithm pushed to them rather than videos identified by users through independent searches.

672. The algorithm also keeps users watching for longer periods. For instance, Mohan explained that mobile device users watch for more than 60 minutes on average per session “because of what our recommendations engines are putting in front of [them].”<sup>700</sup>

673. The algorithm is particularly effective at addicting teenagers to the platform. In 2022, Pew Research Center found that “[a]bout three-quarters of teens visit YouTube daily, including 19% who report using the site or app almost constantly.”<sup>701</sup>

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<sup>696</sup> Nilay Patel, *YouTube Chief Product Officer Neal Mohan on The Algorithm, Monetization, and the Future for Creators*, Verge (Aug. 3, 2021), <https://www.theverge.com/22606296/youtube-shorts-fund-neal-mohan-decoder-interview>.

<sup>697</sup> Casey Newton, *How YouTube Perfected the Feed*, Verge (Aug. 30, 2017), <https://www.theverge.com/2017/8/30/16222850/youtube-google-brain-algorithm-video-recommendation-personalized-feed>.

<sup>698</sup> *Id.*

<sup>699</sup> Joan E. Solsman, *YouTube’s AI Is the Puppet Master over Most of What You Watch*, CNET (Jan. 20, 2018), <https://www.cnet.com/tech/services-and-software/youtube-ces-2018-neal-mohan/>.

<sup>700</sup> *Id.*

<sup>701</sup> Emily Vogels et al., *Teens, Social Media and Technology 2022*, Pew Rsch. Ctr. (Aug. 10, 2022), <https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022>.

674. A software engineer explained that the algorithm is “an addiction engine.”<sup>702</sup> He raised concerns with YouTube staff, who said they had no intention to change the algorithms. After all, the engineer explained, the algorithm works as intended: “it makes a lot of money.”<sup>703</sup>

675. Since users watch more than one billion hours of YouTube videos daily and approximately 70% of the time is spent on videos pushed to users by YouTube’s “recommendation engine,” Google’s algorithms are responsible for hundreds of millions of hours users spend watching videos on YouTube each day.<sup>704</sup>

676. The videos pushed out to users by Google’s “recommendation engine” are more likely to be addictive and more likely to lead to harm. For example, “fear-inducing videos cause the brain to receive a small amount of dopamine,” which acts as a reward and creates a desire to do something over and over.<sup>705</sup> That dopaminergic response makes it more likely that a user will watch the harmful video, which the algorithm interprets as signaling interest and preference. Former Google engineers told the *Wall Street Journal* that “[t]he algorithm doesn’t seek out extreme videos . . . but looks for clips that data show are already drawing high traffic and keeping people on the site. Those videos often tend to be sensationalist.”<sup>706</sup> An investigation by *Bloomberg* put it simply: “In the race to one billion hours, a formula emerged: Outrage equals attention.”<sup>707</sup>

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<sup>702</sup> Mark Bergen, *YouTube Executives Ignored Warnings, Letting Toxic Videos Run Rampant*, Bloomberg (Apr. 2, 2019), <https://www.bloomberg.com/news/features/2019-04-02/youtube-executives-ignored-warnings-letting-toxic-videos-run-rampant>.

<sup>703</sup> *Id.*

<sup>704</sup> See Joan E. Solsman, *YouTube’s AI Is the Puppet Master over Most of What You Watch*, CNET (Jan. 10, 2018), <https://www.cnet.com/tech/services-and-software/youtube-ces-2018-neal-mohan/>.

<sup>705</sup> Josephine Bila, *YouTube’s Dark Side Could be Affecting Your Child’s Mental Health*, CNBC (Feb. 13, 2018), <https://www.cnbc.com/2018/02/13/youtube-is-causing-stress-and-sexualization-in-young-children.html>.

<sup>706</sup> *Why is YouTube Suggesting Extreme and Misleading Content* (2/7/2018), <https://www.youtube.com/watch?v=7AjA3Df6i6o>; see also Josephine Bila, *YouTube’s Dark Side Could be Affecting Your Child’s Mental Health*, CNBC (Feb. 13, 2018), <https://www.cnbc.com/2018/02/13/youtube-is-causing-stress-and-sexualization-in-young-children.html>.

<sup>707</sup> Mark Bergen, *YouTube Executives Ignored Warnings, Letting Toxic Videos Run Rampant*, Bloomberg (Apr. 2, 2019), <https://www.bloomberg.com/news/features/2019-04-02/youtube-executives-ignored-warnings-letting-toxic-videos-run-rampant>.

677. Google’s algorithm makes it more likely for children to encounter harmful content by pushing them down “rabbit holes,” which “[lead] viewers to incrementally more extreme videos or topics, which . . . hook them in.”<sup>708</sup> For example, a user might “[w]atch clips about bicycling, and YouTube might suggest shocking bike race crashes.”<sup>709</sup> In this way, the algorithm makes it more likely that youth will encounter content that is violent, sexual, or encourages self-harm, among other types of harmful content.

678. YouTube’s “recommendation engine” creates a vicious cycle in its ruthless quest to grow view time. Users who get pushed down rabbit holes then become *models* for the algorithm. And the algorithm consequently emphasizes that harmful content, disproportionately pushing it to more users. That is, because Google designed the algorithm to “maximize engagement,” uncommonly engaged users become “models to be reproduced.”<sup>710</sup> Thus, the algorithms will “favor the content of such users,” which is often more extreme.<sup>711</sup>

679. The algorithm also makes extreme content less likely to get flagged or reported. As Guillaume Chaslot explained, the algorithm becomes “more efficient” over time “at recommending specific user-targeted content.”<sup>712</sup> And as the algorithm improves, “it will be able to more precisely predict who is interested in [harmful or extreme] content.”<sup>713</sup> So “problems with the algorithm become exponentially harder to notice, as [harmful] content is unlikely to be flagged or reported.”<sup>714</sup>

680. Even on YouTube Kids, which is designed for children under 13 years old, researchers from the Tech Transparency Project found that the algorithm fed children content related to drugs and guns, as well as beauty and diet tips that risked creating harmful body image

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<sup>708</sup> Max Fisher & Amanda Taub, *On YouTube’s Digital Playground, an Open Gate for Pedophiles*, NY Times (June 3, 2019), <https://www.nytimes.com/2019/06/03/world/americas/youtube-pedophiles.html>.

<sup>709</sup> *Id.*

<sup>710</sup> Guillaume Chaslot, *The Toxic Potential of YouTube’s Feedback Loop*, Wired (Jul. 13, 2019), <https://www.wired.com/story/the-toxic-potential-of-youtubes-feedback-loop/>.

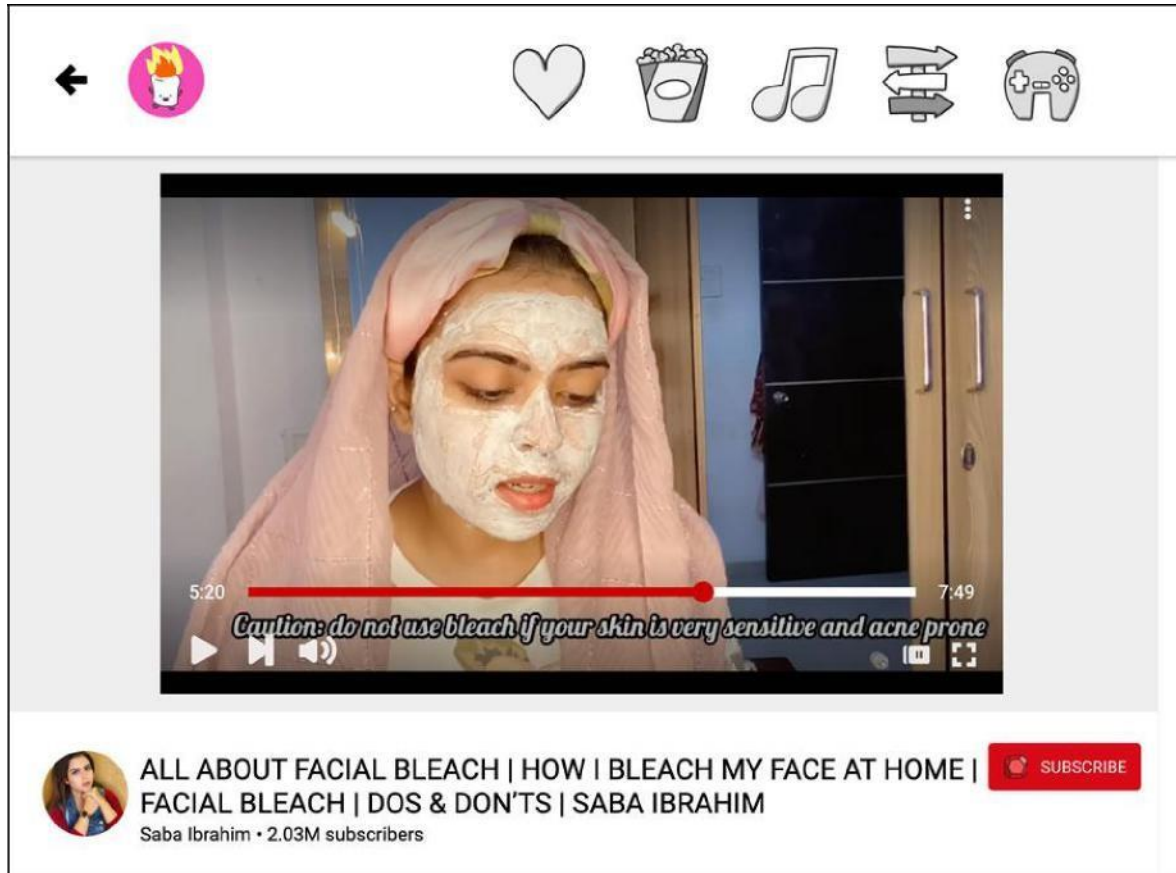
<sup>711</sup> *Id.*

<sup>712</sup> *Id.*

<sup>713</sup> *Id.*

<sup>714</sup> *Id.*

issues. For example, the researchers found videos speaking positively about cocaine and crystal meth; instructing users, step-by-step, how to conceal a gun; explaining how to bleach one's face at home; and stressing the importance of burning calories.<sup>715</sup>



681. Amy Kloer, a campaign director with the child safety group Parents Together, spent an hour on her preschool-age child's YouTube Kids account and found videos “encouraging kids how to make their shirts sexier...[and] a video in which a little boy pranks a girl over her weight[.]”<sup>716</sup> Another parent recounted how YouTube Kids autoplay feature led her 6-year-old daughter to “an animated video that encouraged suicide.”<sup>717</sup>

<sup>715</sup> *Guns, Drugs, and Skin Bleaching: YouTube Kids Poses Risks to Children*, Tech Transparency Project (May 5, 2022), <https://www.techtransparencyproject.org/articles/guns-drugs-and-skin-bleaching-youtube-kids-still-poses-risks-children>.

<sup>716</sup> Rebecca Heilweil, *YouTube's Kids App Has a Rabbit Hole Problem*, Vox (May 12, 2021), <https://www.vox.com/recode/22412232/youtube-kids-autoplay>.

<sup>717</sup> *Id.*

682. These are not isolated examples. According to Pew Research Center, 46% of parents of children 11 or younger report that children encountered videos that were inappropriate for their age.<sup>718</sup> And kids do not “choose” to encounter those inappropriate videos—YouTube’s algorithm—its “recommendation engine”—directs and pushes them there. Again, YouTube’s algorithm is responsible for 70% of the time users spend using the platform.<sup>719</sup>

683. Other reports have confirmed that YouTube’s algorithm steers users towards harmful content. In 2021, the Mozilla Foundation studied 37,000 YouTube users, finding that 71% of all reported negative user experiences came from videos recommended to users by Google’s algorithm.<sup>720</sup> And users were 40% more likely to report a negative experience from a video recommended by YouTube’s algorithm than from one they searched for.<sup>721</sup> Importantly, videos that elicited those negative experiences “acquired 70% more views per day than other videos watched by [study] volunteers.”<sup>722</sup>

684. Those defects combine to compel children and teenagers to overuse a platform that feeds them harmful content, which in turn can adversely affect mental health. One 10-year-old girl in the Mozilla Foundation study who sought “dance videos, ended up encountering videos promoting extreme dieting.”<sup>723</sup> Her mother explained that “[s]he is now restricting her eating and drinking.”<sup>724</sup> Another middle-schooler compulsively consumed YouTube videos every day after she came home from school.<sup>725</sup> Eventually, she became depressed and “got the idea to overdose

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<sup>718</sup> Brooke Auxier et al., *Parenting Children in The Age of Screens*, Pew Rsch. Ctr. (July 28, 2020), <https://www.pewresearch.org/internet/2020/07/28/parental-views-about-youtube/>.

<sup>719</sup> Joan E. Solsman, *YouTube’s AI Is the Puppet Master over Most of What You Watch*, CNET (Jan. 20, 2018), <https://www.cnet.com/tech/services-and-software/youtube-ces-2018-neal-mohan/>.

<sup>720</sup> YouTube Regrets: A Crowdsourced Investigations into YouTube’s Recommendation Algorithm, Mozilla Foundation 13 (July 2021), [https://assets.mofoprod.net/network/documents/Mozilla\\_Youtube\\_Regrets\\_Report.pdf](https://assets.mofoprod.net/network/documents/Mozilla_Youtube_Regrets_Report.pdf).

<sup>721</sup> *Id.*

<sup>722</sup> *Id.*

<sup>723</sup> *Id.*

<sup>724</sup> *Id.*

<sup>725</sup> Lesley McClurg, *After Compulsively Watching YouTube, Teenage Girl Lands in Rehab for ‘Digital Addiction’*, PBS (May 16, 2017), <https://www.pbs.org/newshour/health/compulsively-watching-youtube-teenage-girl-lands-rehab-digital-addiction>.

online.”<sup>726</sup> Three weeks later, she “down[ed] a bottle of Tylenol.” She landed in rehab for digital addiction due to her compulsive YouTube watching.<sup>727</sup>

685. Those experiences are not unique. Mental health experts have warned that YouTube is a growing source of anxiety and inappropriate sexual behavior among kids under 13 years old. Natasha Daniels, a child psychotherapist, described treating children between 8 and 10 years old, who were “found doing sexual things: oral sex, kissing and getting naked and acting out sexual poses.”<sup>728</sup> This kind of behavior “usually indicates some sort of sexual abuse.”<sup>729</sup> Previously, Daniels would typically “find a child who has been molested himself or that an adult has been grooming the child from abuse.”<sup>730</sup> But “in the last five years, when I follow the trail all the way back, it’s YouTube and that’s where it ends.”<sup>731</sup>

686. Daniels has also seen increased rates of anxiety among children using YouTube. And because of that anxiety, those children “exhibit loss of appetite, sleeplessness, crying fits, and fear.”<sup>732</sup> Ultimately, she says, “YouTube is an ongoing conversation in my therapy practice, which indicates there’s a problem.”<sup>733</sup>

687. One study determined that using YouTube was “consistently associated with negative sleep outcomes.”<sup>734</sup> Specifically, for every 15 minutes teens spent using YouTube, they were 24% less likely to get seven hours of sleep. According to Dr. Alon Avidan, director of the

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<sup>726</sup> Lesley McClurg, *After Compulsively Watching YouTube, Teenage Girl Lands in Rehab for ‘Digital Addiction’*, PBS (May 16, 2017), <https://www.pbs.org/newshour/health/compulsively-watching-youtube-teenage-girl-lands-rehab-digital-addiction>.

<sup>727</sup> Lesley McClurg, *After Compulsively Watching YouTube, Teenage Girl Lands in Rehab for ‘Digital Addiction’*, PBS (May 16, 2017), <https://www.pbs.org/newshour/health/compulsively-watching-youtube-teenage-girl-lands-rehab-digital-addiction>.

<sup>728</sup> Josephine Bila, *YouTube’s Dark Side Could be Affecting Your Child’s Mental Health*, CNBC (Feb. 13, 2018), <https://www.cnn.com/2018/02/13/youtube-is-causing-stress-and-sexualization-in-young-children.html>.

<sup>729</sup> *Id.*

<sup>730</sup> *Id.*

<sup>731</sup> *Id.*

<sup>732</sup> *Id.*

<sup>733</sup> *Id.*

<sup>734</sup> Meg Pillion et al., *What’s ‘app’-ning to adolescent sleep? Links between device, app use, and sleep outcomes*, 100 Sleep Med. 174–82 (Dec. 2022), <https://www.sciencedirect.com/science/article/abs/pii/S1389945722010991?via%3Dihub>.



UCLA Sleep Disorders Center, YouTube is particularly sleep disruptive because its algorithm and autoplay features make it “so easy to finish one video” and watch the next.<sup>735</sup> Similarly, a signal that the YouTube algorithm relies on is the ‘time of day’ a user is watching—a signal that, when used to maximize length of duration with YouTube, induces sleep deprivation.<sup>736</sup>

688. Sleep deprivation is, in turn, associated with poor health outcomes. For example, “insufficient sleep negatively affects cognitive performance, mood, immune function, cardiovascular risk, weight, and metabolism.”<sup>737</sup>

689. Compulsively consuming harmful content on YouTube can also harm brain development. According to Donna Volpitta, Ed.D, “[c]hildren who repeatedly experience stressful and/or fearful emotions may under develop parts of their brain’s prefrontal cortex and frontal lobe, the parts of the brain responsible for executive functions, like making conscious choices and planning ahead.”<sup>738</sup>

690. Google’s algorithm also promotes the creation of and pushes children towards extremely dangerous prank or “challenge” videos, which often garner thousands of “Likes,” adding to the pressure children feel to participate.<sup>739</sup>

691. Even though Google knew or should have known of these risks to its youth users, YouTube lacks any warnings that foreseeable use could cause these harms.

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<sup>735</sup> Cara Murez, One App Is Especially Bad for Teens’ Sleep, U.S. News & World Rep. (Sept. 13, 2022), <https://www.usnews.com/news/health-news/articles/2022-09-13/one-app-is-especially-bad-for-teens-sleep>.

<sup>736</sup> YouTube, *How YouTube Works*, <https://www.youtube.com/howyoutubeworks/product-features/recommendations/#signals-used-to-recommend-content>.

<sup>737</sup> Jessica C. Levenson et al., *The Association Between Social Media Use and Sleep Disturbance Among Young Adults*, 85 Preventive Med. 36–41 (Apr. 2016), <https://www.sciencedirect.com/science/article/abs/pii/S0091743516000025>.

<sup>738</sup> Josephine Bila, *YouTube’s Dark Side Could be Affecting Your Child’s Mental Health*, CNBC (Feb. 13, 2018), <https://www.cnn.com/2018/02/13/youtube-is-causing-stress-and-sexualization-in-young-children.html>.

<sup>739</sup> See, e.g., ViralBrothers, *Revenge 9 – Cheating Prank Turns into Suicide Prank*, YouTube (June 11, 2014), [https://www.youtube.com/watch?v=Bf7xIjz\\_ww0](https://www.youtube.com/watch?v=Bf7xIjz_ww0).



692. And despite all the evidence that YouTube’s design and algorithms harm millions of children, Google continues to manipulate users and compel them to use the app excessively, to enhance Google’s bottom line. As a result, young people are confronted with more and more extreme videos, often resulting in significant harm.

**d. YouTube’s defective features include impediments to discontinuing use.**

693. As with other Defendants, Google has intentionally and defectively designed its platforms so that adolescent users face significant navigational obstacles and hurdles when trying to delete or deactivate their accounts, in contrast to the ease with which users can create those accounts.

694. *First*, because YouTube is accessible without a user needing to log in, YouTube users cannot prevent themselves from being able to access YouTube by deleting their YouTube account.

695. *Second*, YouTube accounts are linked to a user’s broader Google account. These accounts are structured such that, for a user to delete a YouTube account, the user must also delete the user’s entire Google account. This means that if a YouTube user uses Google’s other platforms those accounts will be lost as well. This structure holds hostage user data—if a child needs to keep their email account through Google (for instance, if that is a requirement of their school), they cannot delete their YouTube account, even if they want to. If a user stores family photos in Google Photos, but wants to delete their YouTube account, they must choose between storage for their photos or deleting their YouTube account. Similarly, if a user has purchased books or movies through Google’s digital market Google Play, the user’s copy of those books or movies will be deleted if the user deletes their Google account to rid themselves of YouTube. Google explicitly threatens users with this consequence on the page where users can delete their account, listing every associated account Google will delete and providing examples of the kinds of content that will be deleted if a user does not back down from their desire to delete their YouTube account.

696. *Third*, Google intentionally designed YouTube so that to delete a user's Google account, a user must locate and tap on six different buttons (through six different pages and popups) from YouTube's main feed to delete an account successfully. This requires navigating away from YouTube and into the webpages of other Google platforms. As with Meta, users are still able to recover their accounts after deletion—though unlike Meta, Google does not tell users when their accounts will become unrecoverable, simply threatening that they will soon after deletion.

#### **4. Google facilitates the spread of CSAM and child exploitation.**

697. Various design features of YouTube promote and dramatically exacerbate sexual exploitation, the spread of CSAM, sextortion, and other socially maladaptive behavior that harms children.

698. Google is required to comply with COPPA and obtain verifiable parental consent before collecting personal information from children. It fails to do so. In 2019, the FTC and New York Attorney General alleged in a federal complaint that Google and YouTube violated COPPA by collecting personal information from children without verifiable parental consent.<sup>740</sup>

699. Google and YouTube collected persistent identifiers that they used to track viewers of child-directed channels across the Internet without prior parental notification, in violation of Sections 1303(c), 1305(a)(1), and 1306(d) of COPPA.<sup>741</sup>

700. Google and YouTube designed the child-centered YouTube Kids platform. Despite its clear knowledge of this channel being directed to children under 13 years old, Google served targeted advertisements on these channels.<sup>742</sup>

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<sup>740</sup> Fed. Trade Comm'n, Google and YouTube Will Pay Record \$170 Million for Alleged Violations of Children's Privacy Law (2022), <https://www.ftc.gov/news-events/news/press-releases/2019/09/google-youtube-will-pay-record-170-million-alleged-violations-childrens-privacy-law>.

<sup>741</sup> *Id.*

<sup>742</sup> *Id.*

701. Google pays its users to create content because it benefits from increased user activity and receives something of value for its YouTube Partner Program.<sup>743</sup>

702. Google allows users to monetize its platform to generate revenue for itself and its users, including users that violate laws prohibiting the sexual exploitation of children.

703. According to its own guidelines, Google prohibits using YouTube in ways that “[endanger] the emotional and physical well-being of minors.”<sup>744</sup>

704. Google represents that YouTube “has strict policies and robust operations in place to tackle content and behavior that is harmful or exploitative to children.”<sup>745</sup>

705. Google maintains that its guidelines prohibit images, videos, and comments that put children at risk, “including areas such as unwanted sexualization, abuse, and harmful and dangerous acts.”<sup>746</sup>

706. While Google “may place an age restriction on the video,”<sup>747</sup> YouTube fails to implement proper age-verification mechanisms to prevent minor users from accessing age-restricted content, as discussed above.

707. Google fails to prevent collages of images and videos of children showing their exposed buttocks, underwear, and genitals from racking up millions of views, YouTube which are then promoted and monetized by displaying advertisements from major brands alongside the content.<sup>748</sup>

708. Through Google’s platform, videos of minors revealing their “bathing suit hauls,” playing in pools, beaches, waterparks, or performing gymnastics are recommended, shown, and promoted to child predators who interact with these videos, including commenting to share “time

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<sup>743</sup> YouTube Partner Program overview & eligibility, <https://support.google.com/youtube/answer/72851?hl=en>.

<sup>744</sup> Child safety policy - YouTube help, Google, <https://support.google.com/youtube/answer/2801999?hl=en>.

<sup>745</sup> Child safety policy - YouTube help, Google, <https://support.google.com/youtube/answer/2801999?hl=en>.

<sup>746</sup> *Id.*

<sup>747</sup> *Id.*

<sup>748</sup> K.G Orphanides, *On YouTube, a network of pedophiles is hiding in plain sight* WIRED UK (2019), <https://www.wired.co.uk/article/youtube-pedophile-videos-advertising>.

codes for crotch shots,” to direct others to similar videos, and to arrange to meet up on other social media platforms to share and exchange CSAM.<sup>749</sup>

709. Multiple YouTube channels dedicated to pre-teen models, young girls stretching, and teen beauty are routinely oversexualized and manipulated by predators.<sup>750</sup>

710. Google’s platform recommends and promotes abusive behaviors towards children and victimizes unsuspecting minors on a mass scale.

711. When users search for images and videos of minors, Google’s algorithm pushes additional videos, which strictly feature children, and this recommended content often includes promoted content for which Google receives value from advertisers.

712. Users of Google’s platform who search for images and videos of minors are further inundated with comments from other predators that provide hyperlinks to CSAM and opportunities to share CSAM on other platforms.<sup>751</sup>

713. On average, Google pays its creators \$0.50 to \$6.00 per 1,000 views of any video they create, including materials depicting minors in violation of 18 U.S.C. §§ 2252, 2252A, 1591, 1466, and other criminal statutes.<sup>752</sup>

714. Google actively participates and receives value for creating content on its platform in violation of 18 U.S.C. §§ 2252, 2252A, 1591, 1466, and other criminal statutes.

715. Google actively participates and receives value for creating content on its platform in violation of laws prohibiting the sexual exploitation of children.

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<sup>749</sup> K.G Orphanides, *On YouTube, a network of pedophiles is hiding in plain sight* WIRED UK (2019), <https://www.wired.co.uk/article/youtube-pedophile-videos-advertising>.

<sup>750</sup> *Id.*

<sup>751</sup> K.G Orphanides, *On YouTube, a network of pedophiles is hiding in plain sight* WIRED UK (2019), <https://www.wired.co.uk/article/youtube-pedophile-videos-advertising>.

<sup>752</sup> How YouTube creators earn money - how YouTube works, YouTube, <https://www.youtube.com/howyoutubeworks/product-features/monetization/#:~:text=Advertising%20is%20the%20primary%20way,directly%20profit%20from%20their%20work>.

716. Google maintains that it is “dedicated to stopping the spread of online child exploitation videos.”<sup>753</sup> Yet, it fails to implement proper safeguards to prevent the spread of illegal contraband on YouTube.

717. The troves of data and information about its users that Google collects enable it to detect, report as legally required, and take actions to prevent instances of sexual grooming, sextortion, and CSAM distribution, but it has failed to do so. Google continues to make false representations its “teams work around-the-clock to identify, remove, and report this content.”<sup>754</sup>

718. Google has proprietary technology, CSAI Match, that is supposed to combat CSAI (Child Sexual Abuse Imagery) content online. This technology allows Google to identify known CSAM contraband being promoted, shared, and downloaded on YouTube. Google’s CSAI Match can identify which portion of the video matches known and previously hashed CSAM and provide a standardized categorization of the CSAM. When a match is detected by Google using CSAI Match, it is flagged so that Google can “responsibly report in accordance to local laws and regulations.”<sup>755</sup>

719. Despite this, Google routinely fails to flag CSAM and regularly fails to adequately report known content to NCMEC and law enforcement and fails to takedown, remove, and demonetize CSAM.

720. Separate from CSAM detection, Google also implements an automated system called Content ID “to easily identify and manage [its] copyright-protected content on YouTube.”<sup>756</sup> Videos uploaded to YouTube are “scanned against a database of audio and visual content that’s been submitted to YouTube by copyright owners,” and Google can block, monetize, and track that material automatically.<sup>757</sup> Google only grants Content ID to copyright owners who meet its own specific

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<sup>753</sup> YouTube, <https://www.youtube.com/csai-match/>.

<sup>754</sup> Google’s efforts to combat online child sexual abuse material, <https://transparencyreport.google.com/child-sexual-abuse-material/reporting>.

<sup>755</sup> *Id.*

<sup>756</sup> How Content ID Works—YouTube Help, Google, <https://support.google.com/youtube/answer/2797370?hl=en>.

<sup>757</sup> *Id.*

criteria, and these criteria categorically exclude CSAM victims. Google fails to use Content ID systems to block, remove, demonetize, or report CSAM on YouTube.

721. In 2018, Google launched “cutting-edge artificial intelligence (AI) that significantly advances [Google’s] existing technologies,” which Google claimed “drastically improved” detection of CSAM that is distributed by YouTube.<sup>758</sup> These claims were false, and misled parents and children into believing YouTube is safe for minors. Google failed to drastically improve the frequency of CSAM detection, reports, and takedowns on its platform.

722. Google claims that it will “continue to invest in technology and organizations to help fight the perpetrators of CSAM and to keep our products and our users safe from this type of abhorrent content.”<sup>759</sup> In reality, it fails to do so. Google fails to invest in adequate age verification and continues to fail to remove CSAM from YouTube.

723. Google knows or should have known that YouTube facilitates the production, possession, distribution, receipt, transportation, and dissemination of millions of materials that depict obscene visual representations of the sexual abuse of children, or that violate child pornography laws, each year.

724. Google knowingly fails to take adequate and readily available measures to remove these contraband materials from its platform in a timely fashion.

725. In violation of 18 U.S.C. § 2258A, Google knowingly fails to report massive amounts of material in violation of 18 U.S.C. § 2256 and 18 U.S.C. § 1466A.

726. YouTube is polluted with illegal material that promotes and facilitates the sexual exploitation of minors, and Google receives value in the form of increased user activity for the dissemination of these materials on its platforms.

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<sup>758</sup> Nikola Todorovic, *Using AI to help organizations detect and report Child sexual abuse material online Google* (2018), <https://blog.google/around-the-globe/google-europe/using-ai-help-organizations-detect-and-report-child-sexual-abuse-material-online/>.

<sup>759</sup> Nikola Todorovic, *Using AI to help organizations detect and report Child sexual abuse material online Google* (2018), <https://blog.google/around-the-globe/google-europe/using-ai-help-organizations-detect-and-report-child-sexual-abuse-material-online/>.

727. Google failed to report materials in violation of the reporting requirements of 18 U.S.C. § 2258A.<sup>760</sup>

728. Google knows that YouTube is unsafe for children and yet fails to implement safeguards to prevent children from accessing.

729. Further, there is effectively no way for users to report CSAM on YouTube. YouTube does not allow users to specifically report any material posted on YouTube as CSAM or child pornography.<sup>761</sup>

730. YouTube Mobile does not provide any way to report users, including users who share CSAM on its platform. On the desktop, a viewer can report a user, but Google has made the reporting function difficult to access. Furthermore, reporting requires a viewer to have a Google account and be logged in to the account to make the report.<sup>762</sup>

##### **5. Google failed to adequately warn about the harm its platforms cause or provide instructions regarding safe use.**

731. Since YouTube's inception, Google has failed to adequately warn adolescent users, the public, and Plaintiff about the physical and mental health risks YouTube poses. These risks include, but are not limited to, platform abuse, addiction, and compulsive use; sexual exploitation from adult users; dissociative behavior; damage to body image; social isolation; impaired brain development; and a plethora of mental health disorders like body dysmorphia, eating disorders, anxiety, depression, insomnia, ADD/ADHD exacerbation, suicidal ideation, self-harm, and death.

732. Google targets adolescent users via advertising and marketing materials distributed throughout digital and traditional media platforms. Its advertising and marketing campaigns fail to

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<sup>760</sup> NCMEC, 2019 CyberTipline reports by Electronic Service Providers (ESP), <https://www.missingkids.org/content/dam/missingkids/pdfs/2019-reports-by-esp.pdf>.

<sup>761</sup> Canadian Centre for Child Protection, Reviewing Child Sexual Abuse Material Reporting Functions on Popular Platforms, [https://protectchildren.ca/pdfs/C3P\\_ReviewingCSAMMaterialReporting\\_en.pdf](https://protectchildren.ca/pdfs/C3P_ReviewingCSAMMaterialReporting_en.pdf).

<sup>762</sup> *Id.*



provide adequate warnings to potential adolescent consumers or the public of the physical and mental risks associated with using YouTube.

733. Google further fails to adequately warn adolescents during the registration process. At account setup, YouTube contains no warning labels, banners, or conspicuous messaging to adequately inform adolescent users of the known risks and potential physical and mental harms associated with usage of its platform. Instead, Google allows adolescents to easily create an account (or multiple accounts), and to access YouTube with or without an account.

734. Google's lack of adequate warnings continues once an adolescent uses YouTube. Google does not adequately inform adolescent users that their data will be tracked, used to help build a unique algorithmic profile, and potentially sold to Google's advertising clients.

735. Google's failure to warn adolescent users continues even as adolescents exhibit problematic signs of addictive, compulsive use of YouTube. Google does not adequately warn users when their screen time reaches harmful levels or when adolescents are accessing the platform on a habitual and uncontrolled basis.

736. Not only does Google fail to adequately warn users and the public regarding the risks associated with YouTube, it also does not provide adequate instructions on how adolescents can safely use its platform. A reasonable and responsible company would instruct adolescents on best practices and safety protocols when using a platform known to pose health risks.

737. Google also fails to adequately warn users that:

- a. sexual predators use YouTube to produce and distribute CSAM;
- b. adult predators targeting young children for sexual exploitation, sextortion, and CSAM are prevalent on YouTube;
- c. usage of YouTube can increase the risk of children being targeted and sexually exploited by adult predators; and,
- d. usage of YouTube can increase risky and uninhibited behavior in children, making them easier targets to adult predators for sexual exploitation, sextortion, and CSAM.

**G. DEFENDANTS' SOCIAL MEDIA PLATFORMS CAUSE PROFOUND  
DISRUPTION TO THE EDUCATIONAL ENVIRONMENT OF SCHOOLS**

737. School districts are uniquely harmed by Defendants' conduct which has caused and contributed to the current youth mental health crisis. This is because schools are one of the main providers for mental health services for school-aged children.<sup>763</sup> Over 3.1 million children ages 12–17 received mental health services through an education setting in 2020, more than any other non-specialty mental health service setting.<sup>764</sup>

738. Most schools offer mental health services to students. In the 2021–22 school year, 96 percent of public schools reported offering at least one type of mental health service to their students.<sup>765</sup> But 88 percent of public schools indicated they were limited in their ability to effectively provide mental health services to all students in need.<sup>766</sup> The most common barriers to providing effective mental health services are (1) insufficient number of mental health professionals; (2) inadequate access to licensed mental health professionals; and (3) inadequate funding.<sup>767</sup> Student opinions also reflect that schools are unable to provide adequate mental health services. Less than a quarter of students in grades 6–12 report accessing counseling or psychological services when they are upset, stressed, or having a problem.<sup>768</sup> And of the students who are able to access mental health services, only 41 percent of middle schoolers and 36 percent of high schoolers are satisfied with the services they receive.<sup>769</sup>

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<sup>763</sup> *National Survey on Drug Use and Health*, SAMHSA (2019 & 1st & 4th Qs. 2020), <https://www.samhsa.gov/data/report/2020-nsduh-detailed-tables>.

<sup>764</sup> *Id.*

<sup>765</sup> *Roughly Half of Public Schools Report That They Can Effectively Provide Mental Health Services to All Students In Need*, Nat'l Ctr. Educ. Stat. (May 31, 2022), [https://nces.ed.gov/whatsnew/press\\_releases/05\\_31\\_2022\\_2.asp](https://nces.ed.gov/whatsnew/press_releases/05_31_2022_2.asp).

<sup>766</sup> *Id.*

<sup>767</sup> *Id.*

<sup>768</sup> *Insights From the Student Experience, Part I: Emotional and Mental Health* at 2, YouthTruth (2022), [https://youthtruthsurvey.org/wp-content/uploads/2022/10/YouthTruth\\_EMH\\_102622.pdf](https://youthtruthsurvey.org/wp-content/uploads/2022/10/YouthTruth_EMH_102622.pdf).

<sup>769</sup> *Id.*

739. In part, schools are struggling to provide adequate mental health services because of the increase in students seeking these services.<sup>770</sup>

740. School districts have borne increased costs and expenses in response to the youth mental health crisis. These costs include:

- hiring additional mental health personnel (41 percent of public schools added staff to focus on student mental health);<sup>771</sup>
- developing additional mental health resources (46 percent of public schools created or expanded mental health programs for students, 27 percent added student classes on social, emotional, and mental health and 25 percent offered guest speakers for students on mental health);<sup>772</sup>
- training teachers to help students with their mental health (56 percent of public schools offered professional development to teachers on helping students with mental health);<sup>773</sup>
- increasing disciplinary services and hiring additional personnel for disciplinary services in response to increased bullying and harassment over social media;
- addressing property damaged as a result of students acting out because of mental, social, and emotional problems caused by Defendants' conduct;
- diverting time and resources from instructional activities to notify parents and guardians of students' behavioral issues and missed classes;
- investigating and responding to threats made against schools and students over social media;
- updating student handbooks to address use of Defendants' platforms; and

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<sup>770</sup> *Insights From the Student Experience, Part I: Emotional and Mental Health* at 2, YouthTruth (2022), [https://youthtruthsurvey.org/wp-content/uploads/2022/10/YouthTruth\\_EMH\\_102622.pdf](https://youthtruthsurvey.org/wp-content/uploads/2022/10/YouthTruth_EMH_102622.pdf).

<sup>771</sup> *2022 School Pulse Panel*, U.S. Dep't Educ., Inst. Educ. Sci. (2022), <https://ies.ed.gov/schoolsurvey/spp/>.

<sup>772</sup> *Id.*

<sup>773</sup> *Id.*

- updating school policies to address use of Defendants’ platforms.

741. Students receiving mental health services in educational settings predominately do so because they “[f]elt depressed,” “[t]hought about killing [themselves] or tried to” or “[f]elt very afraid and tense.”<sup>774</sup> In addition, anxiety disorders are also up, affecting 31.9 percent of adolescents between 13 and 18 years old.<sup>775</sup> “Research shows that untreated teenagers with anxiety disorders are at higher risk to perform poorly in school, miss out on important social experiences, and engage in substance abuse.”<sup>776</sup>

742. Schools are struggling not only to provide students with mental health services but also to deliver an adequate education because of the youth mental health crisis perpetuated by Defendants’ platforms. Students in grades 6–12 identify depression, stress, and anxiety as the most prevalent obstacles to learning.<sup>777</sup> Most middle school and high school students also fail to get enough sleep on school nights, which contributes to poor academic performance.<sup>778</sup> These negative mental health outcomes are also the most common symptoms of excessive social media use.

743. The youth mental health crisis has also caused a wide range of other behavioral issues among students, interfering with schools’ ability to teach. In 2022, 61 percent of public schools saw an increase in classroom disruptions from student misconduct.<sup>779</sup> Fifty-eight percent

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<sup>774</sup> Rachel N. Lipari *et al.*, *Adolescent Mental Health Service Use and Reasons for Using Services in Specialty, Educational, and General Medical Settings*, SAMHSA (May 5, 2016), [https://www.samhsa.gov/data/sites/default/files/report\\_1973/ShortReport-1973.html#:~:text=The percent20Substance percent20Abuse percent20and percent20Mental,273 percent20DTALK percent20](https://www.samhsa.gov/data/sites/default/files/report_1973/ShortReport-1973.html#:~:text=The percent20Substance percent20Abuse percent20and percent20Mental,273 percent20DTALK percent20).

<sup>775</sup> *Anxiety Disorders: Facts and Statistics*, Anxiety & Depression Ass’n Am., <https://adaa.org/understanding-anxiety/facts-statistics> (last visited Dec. 8, 2022).

<sup>776</sup> *Id.*

<sup>777</sup> *Insights From the Student Experience, Part I: Emotional and Mental Health* at 2–3, YouthTruth (2022), [https://youthtruthsurvey.org/wp-content/uploads/2022/10/YouthTruth\\_EMH\\_102622.pdf](https://youthtruthsurvey.org/wp-content/uploads/2022/10/YouthTruth_EMH_102622.pdf).

<sup>778</sup> Anne G. Wheaton *et al.*, *Short Sleep Duration Among Middle School and High School Students-United States*, 2015, 67(3) *Morbidity & Mortality Wkly. Rpt.* 85–90 (Jan. 26, 2018), <http://dx.doi.org/10.15585/mmwr.mm6703a1>.

<sup>779</sup> 2022 *School Pulse Panel*, U.S. Dep’t Educ., Inst. Educ. Sci. (2022), <https://ies.ed.gov/schoolsurvey/spp/>.

of public schools also saw an increase in rowdiness outside of the classroom, 68 percent saw increases in tardiness, 27 percent saw increases in students skipping classes, 55 percent saw increases in the use of electronic devices when not permitted, 37 percent saw an increase in bullying, 39 percent saw an increase in physical fights between students, and 46 percent saw an increase in threats of fights between students.<sup>780</sup>

744. Further exacerbating schools' struggle to teach is the fact students are not showing up to school. Indeed, student absenteeism has greatly increased. In the 2021–22 school year, 39 percent of public schools experienced an increase in chronic student absenteeism compared to the 2020–21 school year, and 72 percent of public schools saw increased chronic student absenteeism compared to school years before 2020.<sup>781</sup> In tandem with this trend, vandalism has increased in 2022, with 36 percent of public schools reporting increased acts of student vandalism on school property.<sup>782</sup>

**H. THE DEFENDANTS' CONDUCT CREATED A MENTAL HEALTH CRISIS AND RESULTING PUBLIC NUISANCE IN THE CHARLESTON COUNTY SCHOOL DISTRICT THAT LED TO INNUMERABLE HARMS**

745. Plaintiff operates the second-largest school system in South Carolina, representing a unique blend of urban, suburban, and rural schools. The School District serves more than 50,000 students in 85 schools and several specialized programs. The School District offers a diverse portfolio of options delivered through neighborhood, charter, magnet, IB (international baccalaureate), and Montessori schools. With approximately 6,500 employees district-wide, the School District is the fourth largest employer in the region. CCSD's mission is to educate and support every child in achieving college, career, and citizenship readiness.

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<sup>780</sup> 2022 *School Pulse Panel*, U.S. Dep't Educ., Inst. Educ. Sci. (2022), <https://ies.ed.gov/schoolsurvey/spp/>.

<sup>781</sup> *Id.*

<sup>782</sup> *Id.*

746. Defendants' conduct has created a public health crisis in Plaintiff's schools, and Plaintiff has spent significant and unexpected levels of time and resources addressing the pervasiveness of social media addiction and its sequelae.

747. Plaintiff has been directly impacted by the mental health crisis among youth in its community.

748. There has been a surge in the proportion of youth in Plaintiff's community who say they cannot stop or control their anxiety, who feel so sad and hopeless that they stop doing the activities that they used to love, who are considering suicide, who made plans to commit suicide, and who have attempted to commit suicide.

749. The increases in anxiety, depression, and suicidal behavior among Plaintiff's students have contributed to students' increased behavioral problems in Plaintiff's schools. In recent years, an increasing number of students in Plaintiff's schools have been reported or disciplined for disruptive conduct.

750. Much of the disruptive conduct in Plaintiff's schools begins on, occurs on, or is related to students' compulsive use of Defendants' platforms. Students cannot concentrate on schoolwork because of distraction caused by the constant presence of the platforms. That includes not only habitual checking due to platform addiction engendered by the deliberate design choices of Defendants. It also includes students posting unwanted videos or photos of other students on those platforms, leading to online bullying, harassment, and attendant mental health difficulties for the victims. Consequently, administrators and teachers cannot focus on educating. Rather, they spend more and more time investigating and resolving disciplinary issues tied to Defendants' platforms, and fielding complaints from students and parents alike.

751. The increase in students who report suffering from anxiety and depression and the increase in behavioral issues—and the connection to Defendants' platforms—have not gone unnoticed. Plaintiff estimates that a significant percent of student counseling is related to social media. The common themes are that students feel unhappy about events that have occurred on Defendants' social media platforms, they are often fearful about threats made against themselves and

others on social media, and they express fear and anxiety about what other students post about them on social media.

752. Plaintiff has observed a marked increase in the number of students acting out and in need of mental health services, caused in substantial part by Defendants' platforms exploiting the neurophysiology of young users. Defendants' social media apps have been used to direct student to student intimidation as well as threats against teachers and schools.

753. Often, real life conflicts will carry over to and escalate through Defendants' social media platforms, creating schoolwide disruptions out of situations that previously would have been confined to a small friend group.

754. In addition to increased disciplinary incidents and counseling related to students' compulsive use of Defendants' social media platforms, Plaintiff also faces attendance challenges including tardiness and truancy. Many students present with symptoms of exhaustion and are unable to concentrate due to not getting enough sleep at night due to scrolling on Defendants' social media platforms.

755. Students are so emotionally connected to their devices because of Defendants' apps that removing devices from a student's possession during the school day creates a "void" in the teacher-student relationship. In order to accommodate this emotional attachment, in some classrooms students are allowed to keep their phones face-down on their desk so the students can be comforted by their phone's presence.

756. In an attempt to address this decline in students' mental, emotional, and social health, Plaintiff has been forced to divert resources and expend additional resources to:

- a. hire additional personnel, including counselors and medical professionals to address mental, emotional, and social health issues;
- b. develop additional resources to address mental, emotional, and social health issues;
- c. increase training for teachers and staff to identify students exhibiting mental, emotional, and social distress;



- d. educate teachers, staff, and members of the community about the harms caused by Defendants' wrongful conduct;
- e. create calming rooms and calming kits for school staff and students;
- f. develop lesson plans to teach students about the dangers of using Defendants' platforms; and
- g. update its student handbook to address use of Defendants' platforms; and update school policies to address use of Defendants' platforms.

757. Additionally, more students have been involved in disciplinary incidents as a result of the decline in students' mental, emotional, and social health caused by Defendants. As a result, Plaintiff has been forced to divert resources and expend additional resources to:

- a. repair school property damaged as a result of the exploitation of students by Defendants' platforms;
- b. increase disciplinary services and time spent addressing bullying, harassment, and threats;
- c. investigate and responds to threats made against Plaintiff's schools and students over, or fueled by, social media;
- d. address interruptions to learning and redirecting students who were compelled by Defendants' conduct to access Defendants' platforms while in class or on Plaintiff's school property;
- e. meet with students and the parents of students caught using Defendants' platforms at school;
- f. dedicate and/or purchase and maintain software and other IT resources (*e.g.*, Gaggle) to filter and monitor students' use of social media;
- g. divert time and resources from instruction activities to notify parents and guardians of students' behavioral issues and attendance; and
- h. investigate and respond to threats made against schools and students over social media.

758. During the last decade, Plaintiff has had to increase the number of mental health professionals it employs across the district. Many students rely on these mental health professionals as their only form of mental healthcare. Yet Plaintiff's school psychologists and counselors cannot possibly keep up with the increased need for mental health services resulting from students' addiction to Defendants' platforms.

759. As a result, the rest of Plaintiff's staff must fill in the gaps to help students with mental health concerns. While this is admirable, teachers and other support staff cannot replace certified counselors. Moreover, the burden placed on teachers and school staff by the issues related to Defendants' social media platforms is causing burn-out. The Plaintiff and the public bears the cost of replacing and hiring employees who leave due to burnout and other costs associated with incentivizing retention of well-qualified educators.

760. The funding needed to address these harms should not fall to the taxpayers of South Carolina. Rather, Defendants should bear the burden of remedying their wrongs.

761. Ultimately, Plaintiff requires significantly greater and longer-term funding to address the nuisance Defendants have created, along with abatement and injunctive relief.

## **V. PLAINTIFF'S CLAIMS.**

### **COUNT 1:**

#### **Public Nuisance**

#### **(Against All Defendants)**

762. Plaintiff realleges and incorporates by reference all preceding paragraphs.

763. Plaintiff brings this claim under South Carolina public nuisance law as to all Defendants.

764. Plaintiff has a public right to be free from the substantial injury to public health, safety, peace, and comfort that has resulted from Defendants' conduct as described herein. Plaintiff, its students, and its employees have a right to be free from conduct that endangers their health, safety, and welfare.

765. Defendants, through the actions described in the Complaint, have created—or were a substantial factor in creating—a public nuisance, by unreasonably interfering with a right common to the general public that works hurt, inconvenience, or damage. Defendants have created or assisted in the creation of a condition that interferes with the enjoyment of life or property and is injurious to the health, safety, and welfare of Plaintiffs, its students and employees, and its community.

766. Specifically, Defendants have designed, marketed, and operated their respective social media platforms for use by students in the Charleston County School District in a manner that substantially and unreasonably interferes with the functions, operations, and learning environment of Plaintiff's schools; with the education and instruction of Plaintiff's students; with the public health, safety, and welfare of Plaintiff's community; and with the use and enjoyment of the property of the School District.

767. By designing, marketing, promoting, and operating their platforms in a manner intended to maximize the time youth spend on their respective platforms—despite knowledge of the harms to children and teens from their wrongful conduct—Defendants directly facilitated the widespread, excessive, and habitual use of their platforms and the public nuisance affecting Plaintiff's schools. By seeking to capitalize on their success by refining their platforms to increase the time youth spend on their platforms, Defendants directly contributed to the public health crisis and the public nuisance affecting Plaintiff's schools.

768. Defendants' conduct has exacerbated a mental health crisis in the schools of the Charleston County School District. Defendants' conduct has directly caused a severe disruption of the public health, order, and safety. Defendants' conduct is ongoing and continues to produce permanent and long lasting damage.

769. The health, safety, and welfare of the students and employees of Charleston County School District, including those who use, have used, or will use Defendants' platforms, as well as those affected by others' use of their platforms, are matters of substantial public interest and of legitimate concern to Plaintiff.

770. Defendants' conduct has affected and continues to affect a substantial number of people within Charleston County School District and is likely to continue causing significant harm.

771. This harm to youth mental health and the corresponding impacts on the public health, safety, and welfare of Plaintiff's community outweighs any social utility of Defendants' wrongful conduct. The rights, interests, and inconvenience to Plaintiff's community far outweighs the rights, interests, and inconvenience to Defendants, who have profited tremendously from their wrongful conduct.

772. At all times relevant to the Complaint, Defendants exercised control over the instrumentalities constituting the nuisance—*i.e.* their design, promotion, and operation of their platforms.

773. Defendants' nuisance-creating conduct was intentional and unreasonable and/or violated statutes which established specific legal requirements for the protection of others. Defendants' conduct has affected and continues to affect a substantial number of people within plaintiff's jurisdiction and is likely to continue causing significant harm.

774. Logic, common sense, justice, policy, and precedent indicate Defendants' unfair and deceptive conduct has caused the damage and harm complained of herein. Defendants knew or reasonably should have known that their design, promotion, and operation of their platforms would cause students to use their platforms excessively, that their marketing methods were designed to appeal to youth, and that their active efforts to increase youth use of their platforms were causing harm to youth and to schools, including youth in Plaintiff's schools.

775. Thus, the public nuisance was reasonably foreseeable to Defendants, who knew or should have known the harm they would cause, including the financial and economic losses incurred by Plaintiff. In fact, Defendants were on notice and aware of signs that their platforms were causing just the kinds of injuries described in this Complaint.

776. Despite this knowledge, defendants intentionally, negligently, unreasonably, and/or unlawfully marketed their platforms to adolescents and children, fueling the youth mental health crisis in Plaintiff's community.

777. Defendants owed the public legal duties, including a preexisting duty not to expose Plaintiff and its community to an unreasonable risk of harm and a duty to exercise reasonable and ordinary care and skill in accordance with the applicable standards of conduct in designing and marketing platforms to youth and adolescents, including Plaintiff's students.

778. Defendants' conduct is especially injurious to Plaintiff because, as a direct and proximate cause of Defendants' conduct creating or assisting in the creation of a public nuisance, Plaintiff and its students and employees have sustained and will continue to sustain substantial injuries.

779. Plaintiff has had to take steps to mitigate the harm and disruption caused by Defendants' conduct, including the following:

- a. hiring additional personnel, including counselors and medical professionals to address mental, emotional, social, and behavioral health issues;
- b. developing additional resources to address mental, emotional, social, and behavioral health issues;
- c. increasing training for teachers and staff to identify students exhibiting mental, emotional, and social distress;
- d. educating teachers, staff, and members of the community about the harms caused by Defendants' wrongful conduct;
- e. creating calming rooms and calming kits for school staff and students;
- f. developing lesson plans to teach students about the dangers of using Defendants' platforms;
- g. updating its student handbook to address use of Defendants' platforms; and update school policies to address use of Defendants' platforms;
- h. repairing property damaged as a result of the exploitation of students by Defendants' platforms;
- i. increasing disciplinary services and time spent addressing bullying, harassment, and threats;

- j. investigating and responds to threats made against Plaintiff's schools and students over, or fueled by, social media;
- k. addressing interruptions to learning and redirecting students who were compelled by Defendants' conduct to access Defendants' platforms while in class or on Plaintiff's school property;
- l. meeting with students and the parents of students caught using Defendants' platforms at school;
- m. dedicating and/or purchase and maintain software and other IT resources (*e.g.*, Gaggle) to filter and monitor students' use of social media;
- n. diverting time and resources from instruction activities to notify parents and guardians of students' behavioral issues and attendance;
- o. investigating and respond to threats made against schools and students over social media; and
- p. expending time and resources on activities and expenses to retain teachers and staff and mitigate against the burnout caused by the effects of Defendants' social media platforms on CCSD's student population and resultant issues.

780. As detailed herein, Plaintiff has suffered special damage different in kind or quality from that suffered by the public in common. Fully abating the nuisance resulting from Defendants' conduct will require much more than the steps already undertaken by the School District.

781. The damages suffered by Plaintiff have been greater in degree and different in kind than those suffered by the general public including, but not limited to, costs arising from: expending, diverting and increasing personnel to provide mental health services; expending, diverting and increasing resources to address mental health issues; expending, diverting and increasing staff time to confiscate cell phones and other devices; expending, diverting and increasing staff time to communicate and engage with parents; expending, diverting and increasing staff time associated with student discipline; expending, diverting and increasing staff time associated with routing

students to school psychologists and counselors; expending, diverting and increasing staff time to train staff to identify students exhibiting symptoms affecting their mental health; expending, diverting and increasing resources for modifications to mental health curriculum; expending, diverting and increasing resources to repair property damages as a result of the exploitive and harmful content Defendants directed to students; and expending, diverting and increasing resources to investigate and respond to threats made against schools and students over social media.

782. Defendants are jointly and severally liable because they have acted in concert with each other and because Plaintiff is not at fault.

783. Defendants' conduct, as described above, was intended to serve their own interests despite having reason to know and consciously disregarding a substantial risk that their conduct might significantly injure the rights of others, including Plaintiff, and/or Defendants consciously pursued a course of conduct knowing that it created a substantial risk of significant harm to others, including Plaintiff. Defendants regularly risk the health of users of their platforms with full knowledge of the dangers of their platforms. Defendants consciously decided not to redesign, warn, or inform the unsuspecting public, including Plaintiff's students, their parents, or Plaintiff. Defendants' reckless and outrageous indifference to a highly unreasonable risk of harm and conscious indifference to the health, safety, and welfare of others warrants an award of punitive damages.

784. But for Defendants' actions, Plaintiff's students would not use social media platforms as frequently or continuously as they do today, and the public health crisis that currently exists as a result of Defendants' conduct would have been averted.

785. As a result of Defendants' conduct, Plaintiff has incurred and continues to incur damages and is entitled to compensation therefor. Plaintiff requests all the relief to which it is entitled in its own right and relating to the special damage or injury it has suffered, and not in any representative or *parens patriae* capacity on behalf of students, including actual and compensatory damages in an amount to be determined at trial and an order providing for the abatement of the



public nuisance that Defendants have created or assisted in the creation of, and enjoining Defendants from future conduct contributing to the public nuisance described above.

**COUNT 2:**

**Negligence**

**(Against All Defendants)**

786. Plaintiff realleges and incorporates by reference all preceding paragraphs.

787. Defendants owed Plaintiff a duty to not expose Plaintiff to an unreasonable risk of harm, and to act with reasonable care as a reasonably careful person and/or company would act under the circumstances.

788. At all times relevant to this litigation, Defendants owed a duty to consumers, its users, and the public, including Plaintiff, to exercise reasonable care in the design, research, development, testing, marketing, supply, promotion, advertisement, operation, and distribution of their social media platforms, including the duty to take all reasonable steps necessary to design, research, market, advertise, promote, operate, and/or distribute their platforms in a way that is not unreasonably dangerous to users, including children.

789. At all times relevant to this litigation, Defendants owed a duty to consumers, its users, and the public, including Plaintiff, to exercise reasonable care in the design, research, development, testing, marketing, supply, promotion, advertisement, operation, and distribution of their social media platforms, including the duty to provide accurate, true, and correct information about the risks of using Defendants' platforms; and appropriate, complete, and accurate warnings about the potential adverse effects of extended social media use, in particular, social media content Defendants directed via their algorithms to users.

790. At all times relevant to this litigation, Defendants knew or, in the exercise of reasonable care, should have known of the hazards and dangers of their respective social media platforms and specifically, the health hazards their platforms posed to youth in particular, especially extended or problematic use of such platforms.

791. Accordingly, at all times relevant to this litigation, Defendants knew or, in the exercise of reasonable care, should have known that use of Defendants' social media platforms by youth could cause Plaintiff's injuries and thus created a dangerous and unreasonable risk of injury to Plaintiff.

792. Defendants also knew or, in the exercise of reasonable care, should have known that users of Defendants' social media platforms were unaware of the risks and the magnitude of the risks associated with the use of Defendants' platforms including but not limited to the risks of extended or problematic social media use and the likelihood that Defendants' algorithms would lead child and adolescent users down rabbit holes of increasingly disturbing and aversive photos and videos, including those encouraging self-harm.

793. As such, Defendants, by action and inaction, representation and omission, breached their duty of reasonable care, failed to exercise ordinary care, and failed to act as a reasonably careful person and/or company would act under the circumstances in the design, research, development, testing, marketing, supply, promotion, advertisement, operation, and distribution of their social media platforms, in that Defendants designed, researched, developed, tested, marketed, supplied, promoted, advertised, operated, and distributed social media platforms that Defendants knew or had reason to know would negatively impact the mental health of users, particularly youth, and failed to prevent or adequately warn of these risks and injuries.

794. Despite their ability and means to investigate, study, and test their social media platforms and to provide adequate warnings, Defendants have failed to do so. Defendants have wrongfully concealed information concerning the safety and use of Defendants' social media platforms. Defendants breached their duty of care by:

- a. failing to use reasonable and prudent care in the research, design, development, testing, marketing, supply, promotion, advertisement, operation, and distribution of their social media platforms so as to avoid the risk of encouraging compulsive and addictive social media use;

- b. designing their social media platforms to maximize the amount of time users spend on the platform and causing excessive and problematic use of their platforms, particularly among youth, through the use of algorithm-based feeds, social reciprocity, and IVR;
- c. failing to implement adequate safeguards in the design and operation of their platforms to ensure they would not encourage excessive and problematic use of their platforms;
- d. designing and manufacturing their platforms to appeal to minors and young people who lack the same cognitive development as adults and are particularly vulnerable to social rewards like IVR and social reciprocity; and failing to take adequate steps to prevent their platforms from being promoted, distributed, and used by minors under the age of 13;
- e. failing to provide adequate warnings to child and adolescent users or parents who Defendants could reasonably foresee would use their platforms;
- f. failing to disclose to, or warn, Plaintiff, users, and the general public of the negative mental health consequences associated with their platforms' use, especially for children and adolescents;
- g. failing to disclose to Plaintiff, users, and the general public that Defendants' platforms are designed to maximize the time users, particularly youth, spend on Defendants' platforms and cause negative mental health consequences; representing that Defendants' platforms were safe for child and adolescent users when, in fact, Defendants knew or should have known that the platforms presented acute mental health concerns for young users;
- h. failing to alert users and the general public, including students at Plaintiff's schools, of the true risks of using Defendants' platforms;

- i. advertising, marketing, and recommending Defendants' platforms to youth while concealing and failing to disclose or warn of the dangers known by Defendants to be associated with, or caused by, youth use of Defendants' platforms;
- j. continuing to design, research, develop, market, supply, promote, advertise, operate, and distribute Defendants' platforms with knowledge that Defendants' platforms are unreasonably unsafe, addictive, and dangerous to youth mental health;
- k. failing to modify Defendants' algorithms, which are used to recommend content to users, in a manner that would no longer prioritize maximizing the amount of time users spend on Defendants' platforms over the safety of its youth users;
- l. committing other failures, acts, and omissions set forth herein.

795. Defendants knew or should have known that it was foreseeable that Plaintiff, as the primary and sometimes only mental health service provider for many its students, would suffer injuries as a result of Defendants' failure to exercise reasonable care in designing, researching, developing, testing, marketing, supplying, promoting, advertising, operating, and distributing Defendants' platforms, particularly when Defendants' platforms were designed, developed, operated and marketed to maximize the time youth spend on Defendants' platforms. Plaintiff did not know and could not have known the nature and extent of the injuries that could result from the intended use of Defendants' social media platforms by Plaintiff's students.

796. Defendants' negligence helped to and did produce, and was the proximate cause of, the injuries, harm, and losses that Plaintiff suffered and will continue to suffer, as detailed above. Such injuries, harm, and losses would not have happened without Defendants' negligence as described herein.

797. The mental health crisis caused and/or significantly contributed to by Defendants has caused a major disruption in Plaintiff's schools, and Plaintiff has had to take steps to mitigate the harm and disruption caused by Defendants' conduct, including the following:

- a. hiring additional personnel, including counselors and medical professionals to address mental, emotion, and social health issues;
- b. developing additional resources to address mental, emotional, and social health issues;
- c. increasing training for teachers and staff to identify students exhibiting mental, emotional, and social distress;
- d. educating teachers, staff, and members of the community about the harms caused by Defendants' wrongful conduct;
- e. creating calming rooms and calming kits for school staff and students;
- f. developing lesson plans to teach students about the dangers of using Defendants' platforms;
- g. updating its student handbook to address use of Defendants' platforms; and update school policies to address use of Defendants' platforms;
- h. repairing property damaged as a result of the exploitation of students by Defendants' platforms;
- i. increasing disciplinary services and time spent addressing bullying, harassment, and threats;
- j. meeting with students and the parents of students caught using Defendants' platforms at school;
- k. diverting time and resources from instruction activities to notify parents and guardians of students' behavioral issues and attendance;
- l. investigating and respond to threats made against schools and students over social media;
- m. expending time and resources on activities and expenses to retain teachers and staff and mitigate against the burnout caused by the effects of Defendants' social media platforms on CCSD's student population and resultant issues.

798. As a result of Defendants' negligence, Plaintiff suffered harm to their real and personal property along with other economic losses, including the costs associated with past, present, and future efforts to address, pay for and/or eliminate the youth mental health crisis, in an amount to be proven at trial.

### **COUNT 3:**

#### **Gross Negligence**

#### **(Against All Defendants)**

799. Plaintiff realleges and incorporates by reference all preceding paragraphs.

800. Defendants knew of the substantial risk of harm that their platforms posed to users' mental health, particularly children and adolescents.

801. Defendants' conduct, as described above, was intended to serve their own interests despite having reason to know and consciously disregarding a substantial risk that their conduct might significantly injure the rights of others, including Plaintiff, and/or Defendants consciously pursued a course of conduct knowing that it created a substantial risk of significant harm to others, including Plaintiff. Defendants regularly risk the health of users of their platforms with full knowledge of the significant dangers of their platforms. Defendants consciously decided not to redesign, warn, or inform the unsuspecting public, including Plaintiff's students or Plaintiff.

802. Defendants' gross negligence caused or was a substantial factor in causing foreseeable harm to Plaintiff's real and personal property and other economic losses in an amount to be proven at trial.

803. Defendants' reckless and outrageous indifference to a highly unreasonable risk of harm and conscious indifference to the health, safety, and welfare of others warrants an award of punitive damages.

### **VI. PRAYER FOR RELIEF**

Plaintiff demands judgment against each of the Defendants to the full extent of the law, including but not limited to:

1. An Order that the conduct alleged herein constitutes a public nuisance under South Carolina law;
2. An injunction permanently enjoining Defendants from engaging in the acts and practices that caused the public nuisance;
3. An Order that Defendants are jointly and severally liable pursuant to S.C. Code § 15-38-15(c)(3)(a);
4. An Order requiring Defendants to abate the public nuisance described herein and to deter and/or prevent the resumption of such nuisance;
5. Equitable relief to fund prevention education and treatment for excessive and problematic use of social media;
6. Actual, compensatory, and punitive damages;
7. Reasonable attorneys' fees and costs of suit;
8. Awarding pre-judgment and post-judgment interest; and
9. Such other and further relief as the Court deems just and proper under the circumstances.

## **VI. JURY DEMAND**

Plaintiff demands a trial by jury on all issues so triable.

Dated this 15<sup>th</sup> day of August, 2023

Respectfully submitted,

/s/ Marlon E. Kimpson

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*\*PRO HAVE VICE APPLICATIONS TO BE FILED*